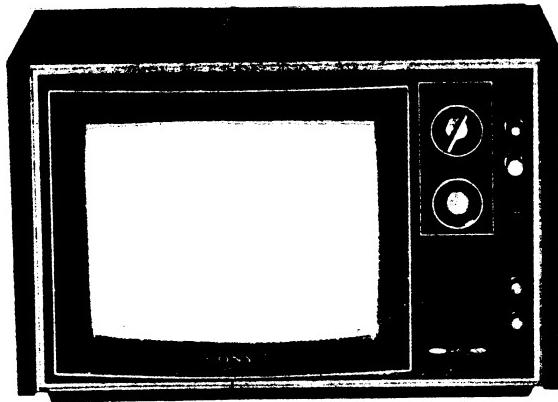


# KV-1300E

Chassis No. Serial No.  
SCC-22A-A Up to 25,000  
SCC-22A-B  
SCC-22A-C 25,001 and later

This manual contains the  
Supplement No. 1.



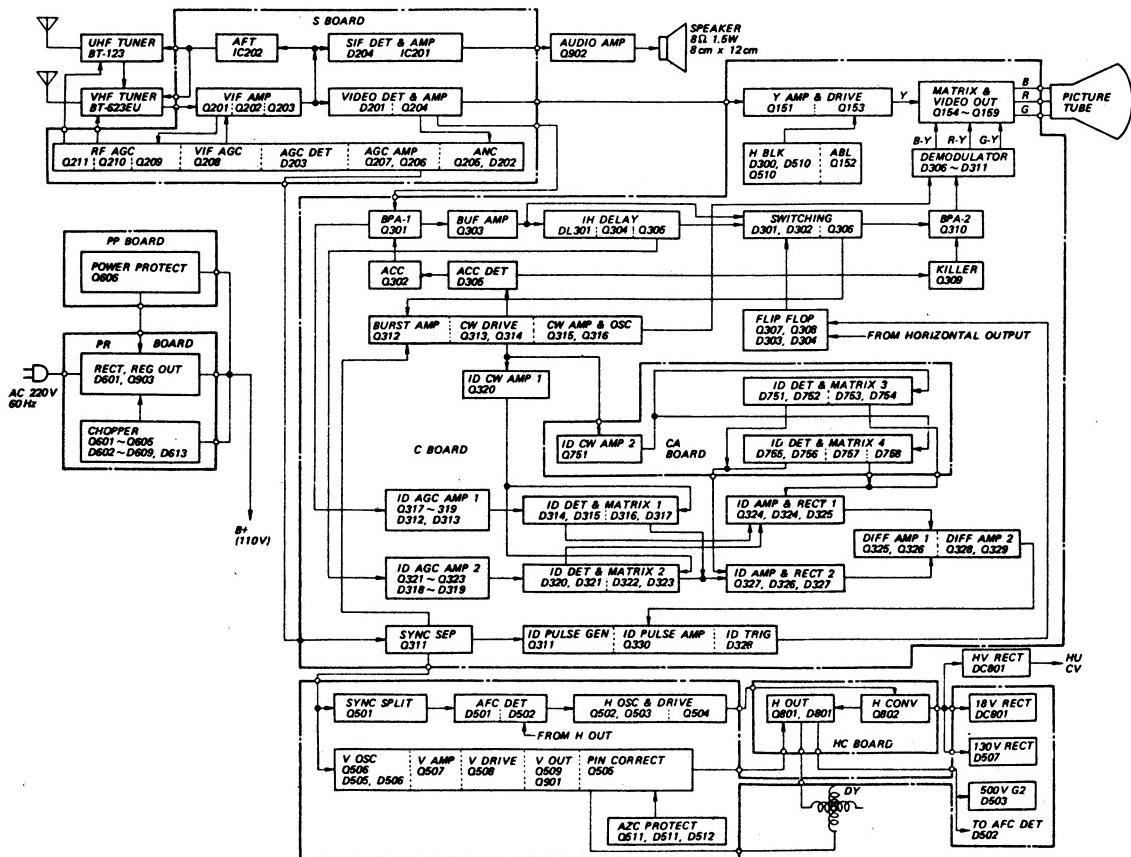
## TRINITRON® COLOUR TV

### SPECIFICATIONS

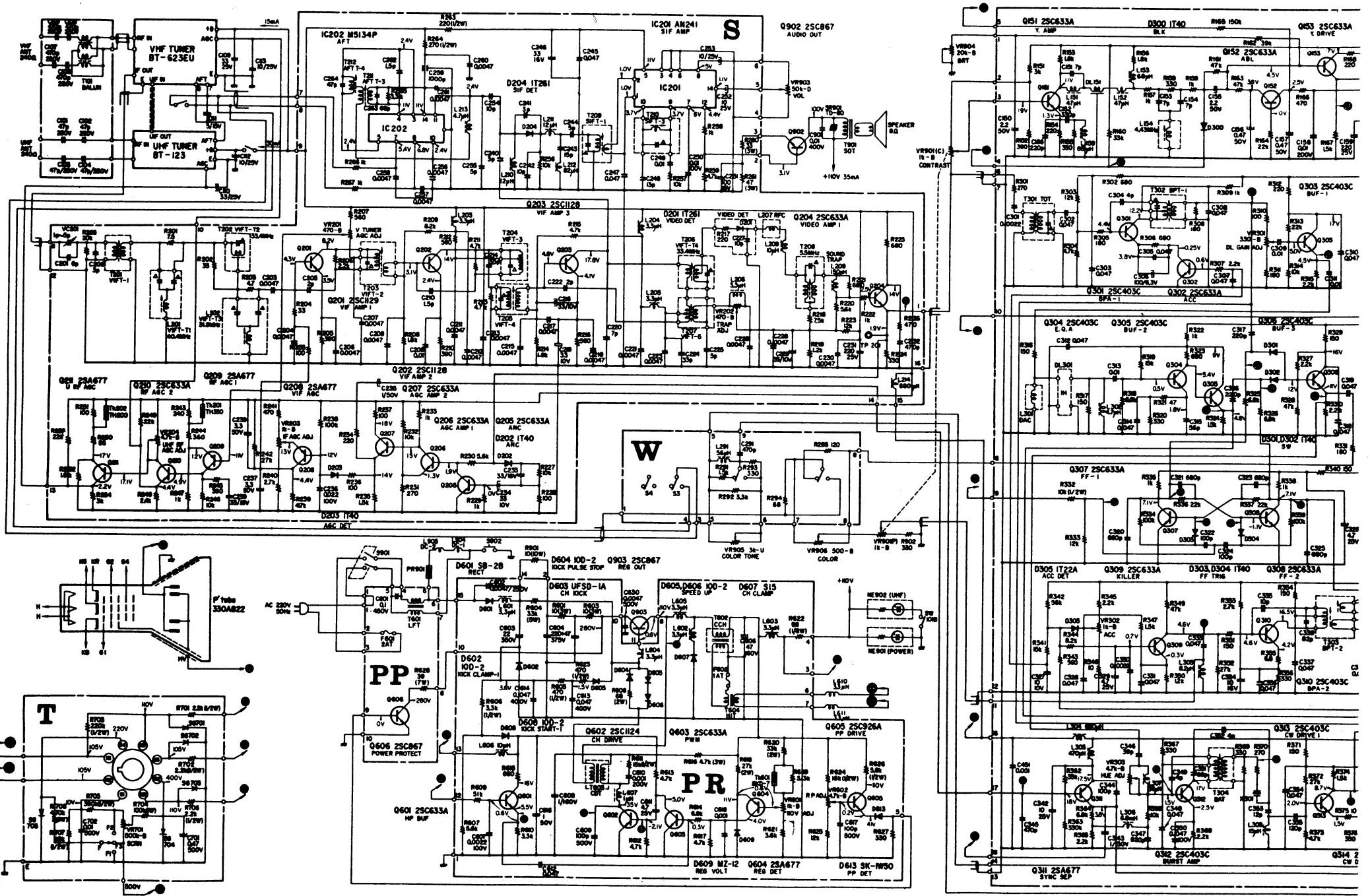
TV-signal standards:	CCIR system B and G	Power requirements:	AC 220V 50 Hz
Picture tube:	13" 90° deflection TRINITRON system (330 AB22)	Power consumption:	78 watts
Semiconductors:	79 transistors, 68 diodes, 2 ICs, 3 thermistors, 2 varistors and 1 positistor	Anode voltage:	20 kV at zero beam current*
Channel coverage:	VHF; ch. E2~E12 UHF; ch. E21~E68	Automatic controls:	ACC (automatic color control) ACK (automatic color killer) ADG (automatic degaussing) ABL (automatic brightness limiter) ANC (automatic noise canceller) AFC (automatic frequency control) AFT (automatic fine tuning) AGC (automatic gain control) AVR (automatic voltage regulator) AZC (automatic zooming control)
Aerial system:	240-ohm aerial terminal type	Dimensions:	474 mm(W) x 318 mm(H) x 394 mm(D)
IF circuit:	3 stages with 1 double tuned and 3 single tuned elements	Weight:	14.1 kg
Intermediate frequency:	Picture if carrier: 38.9 MHz Sound if carrier: 33.4 MHz	Accessories:	Polishing cloth Instruction manual etc.
Video system:	Red, green and blue cathode drive system		
Sound system:	5.5 MHz intercarrier system Power output: 1.2 watts (at 10% harmonic distortion)		
Convergence correction system:	Speaker: 8 x 12 cm, 8-ohm voice coil Horizontal: electrostatic deflection system Vertical: magnetism correction system of magnet		

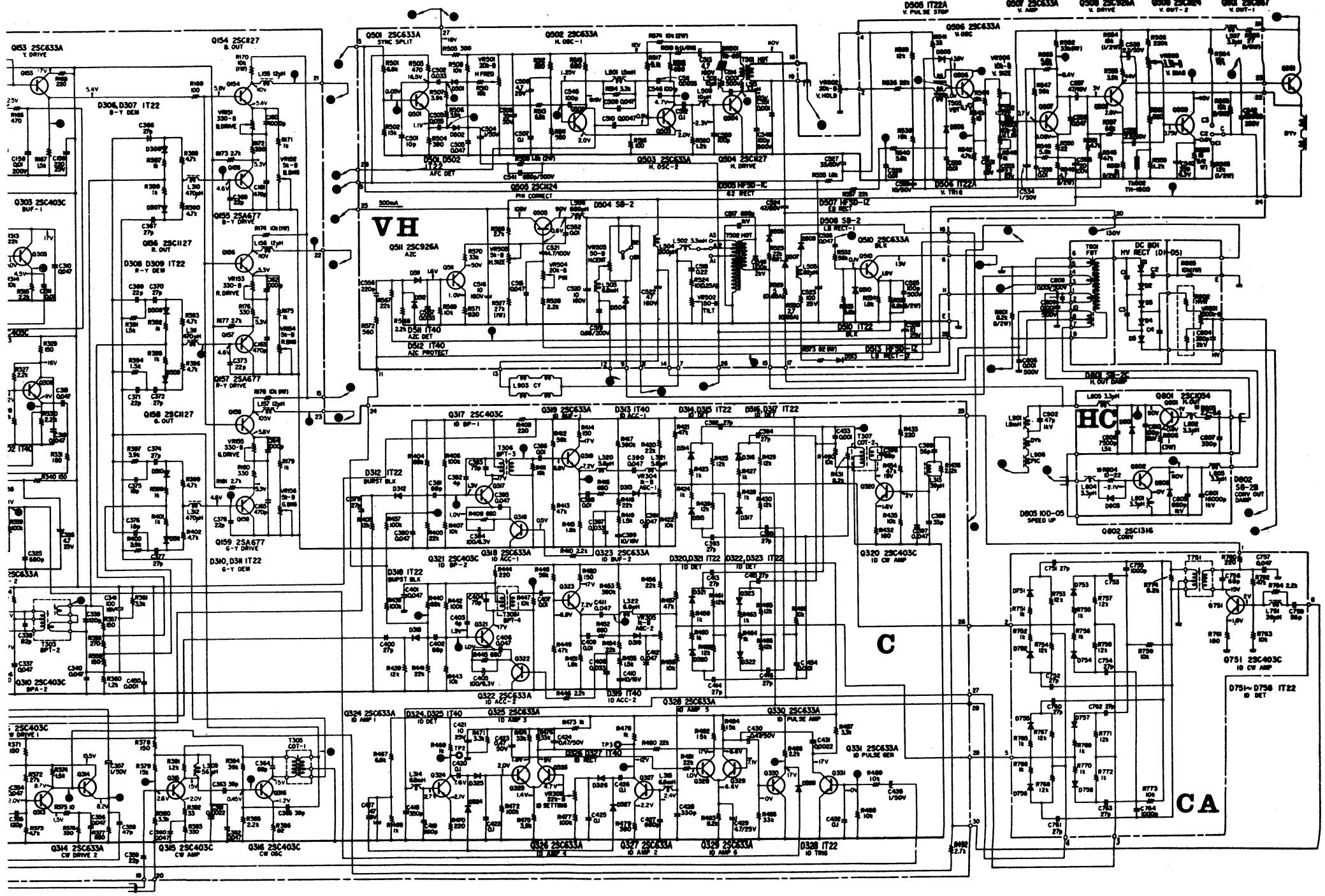
## OUTLINE

### BLOCK DIAGRAM



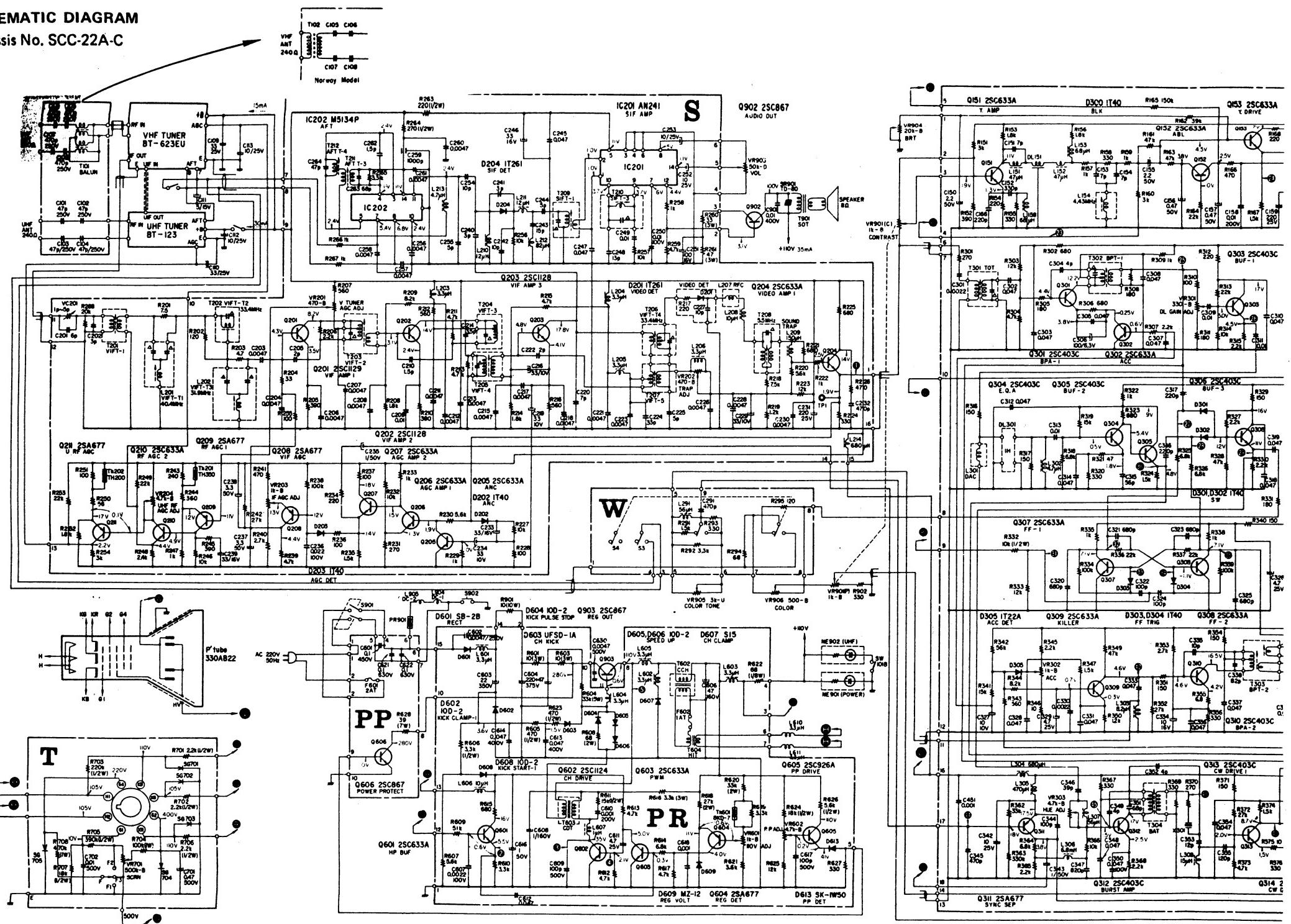
**SCHEMATIC DIAGRAM** Chassis No. SCC-22A-A, SCC-22A-

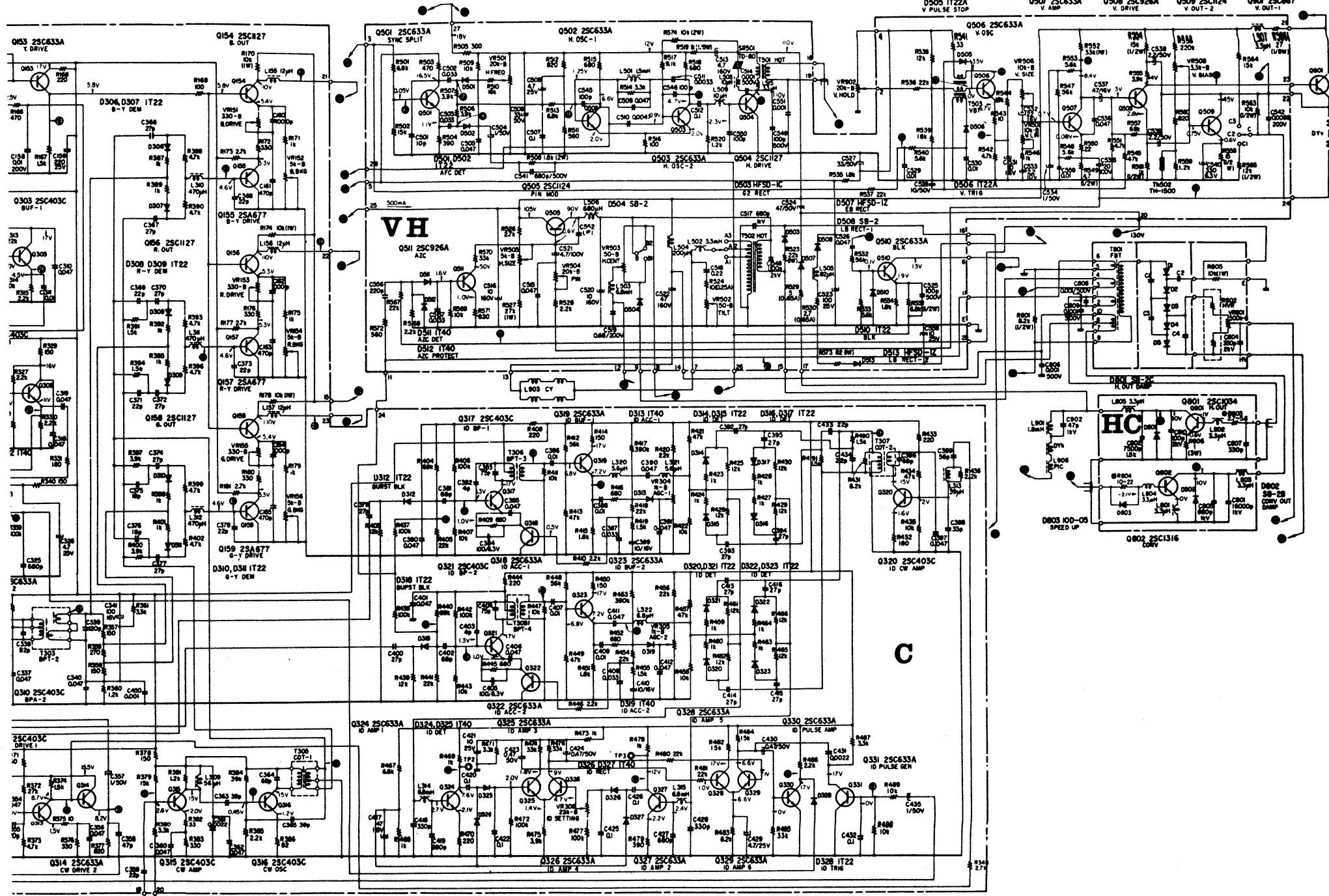


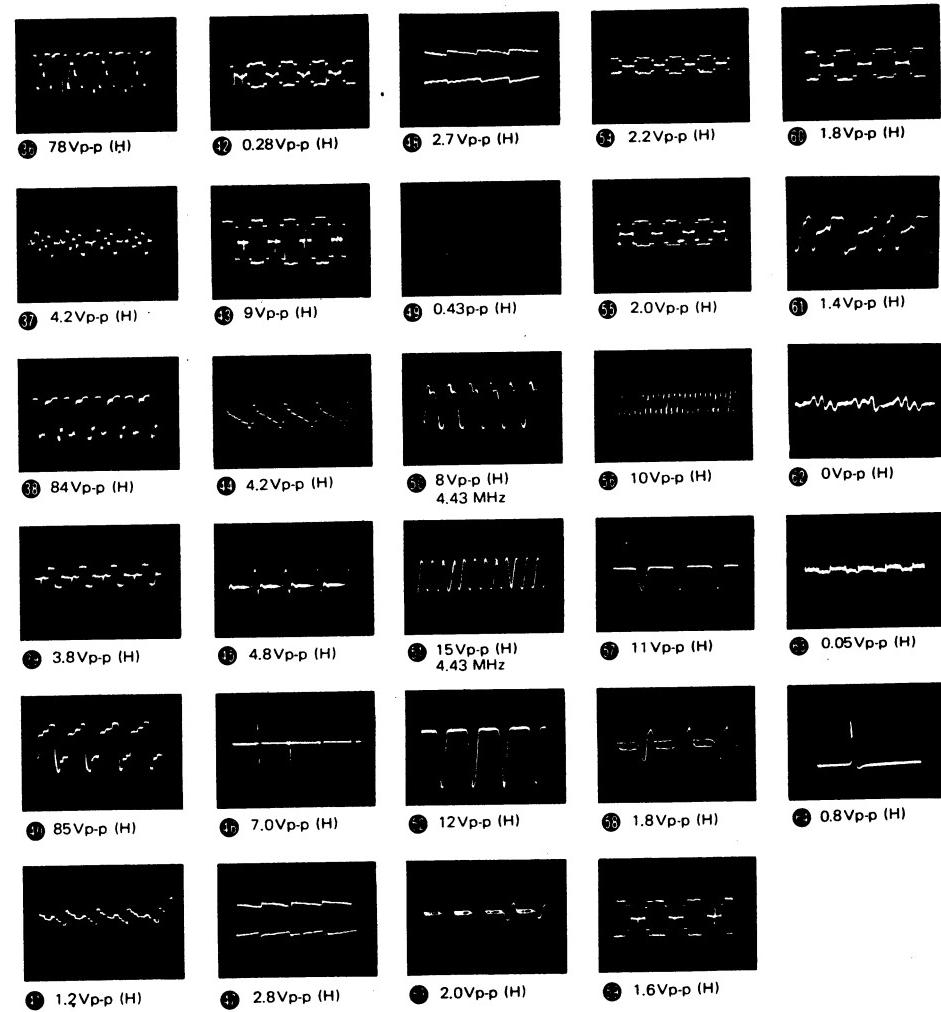
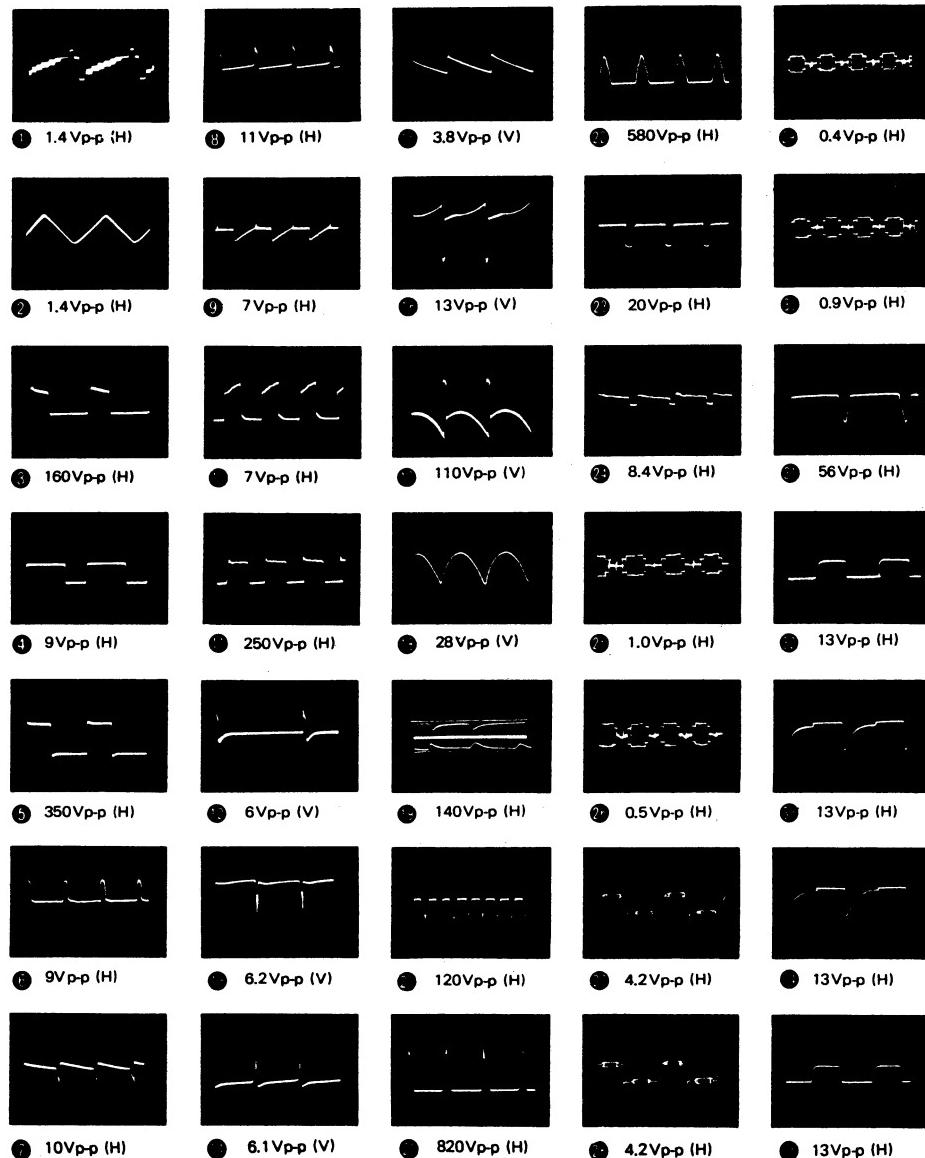


## **SCHEMATIC DIAGRAM**

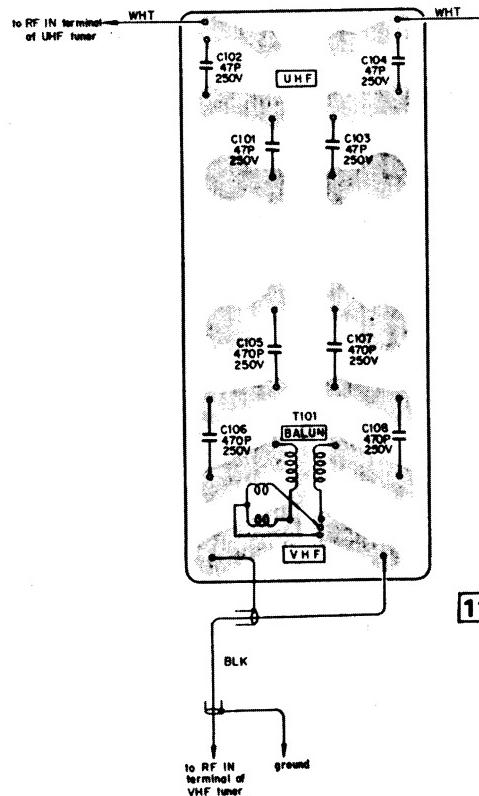
**Chassis No. SCC-22A-C**



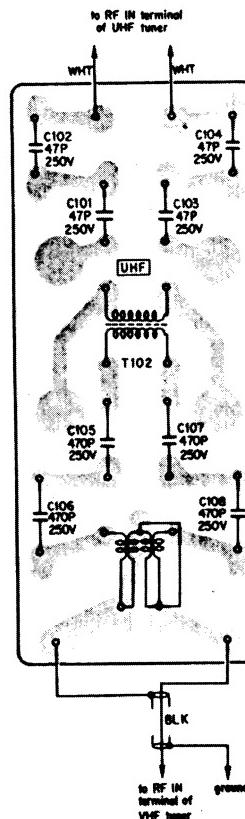




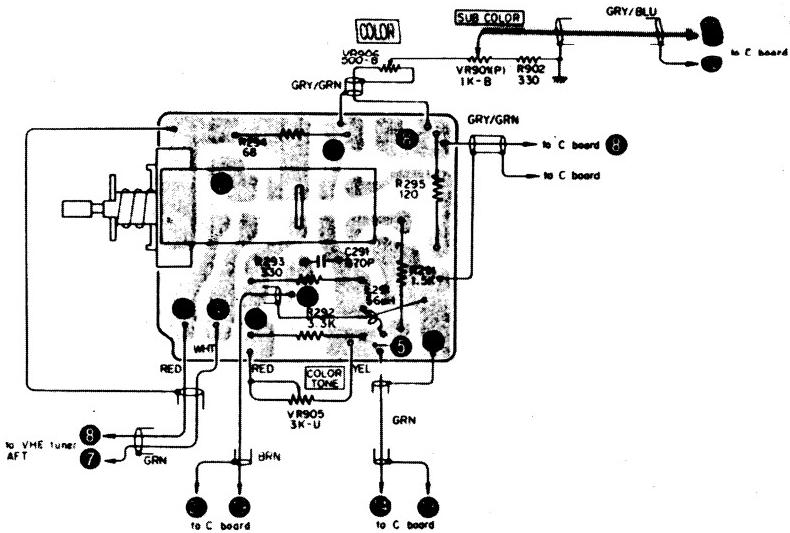
## ANT CIRCUIT BOARD



— Norway model only —



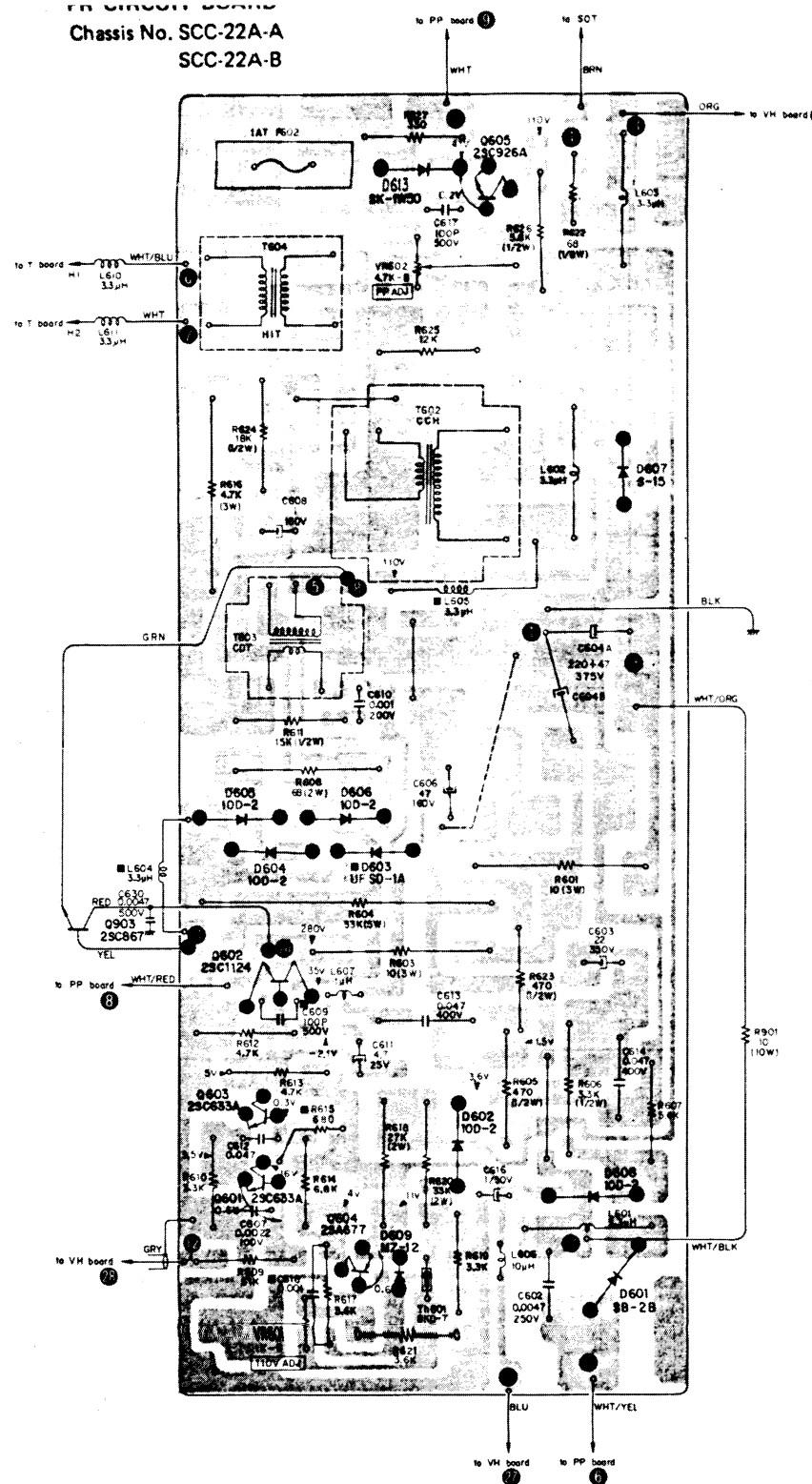
W CIRCUIT BOARD



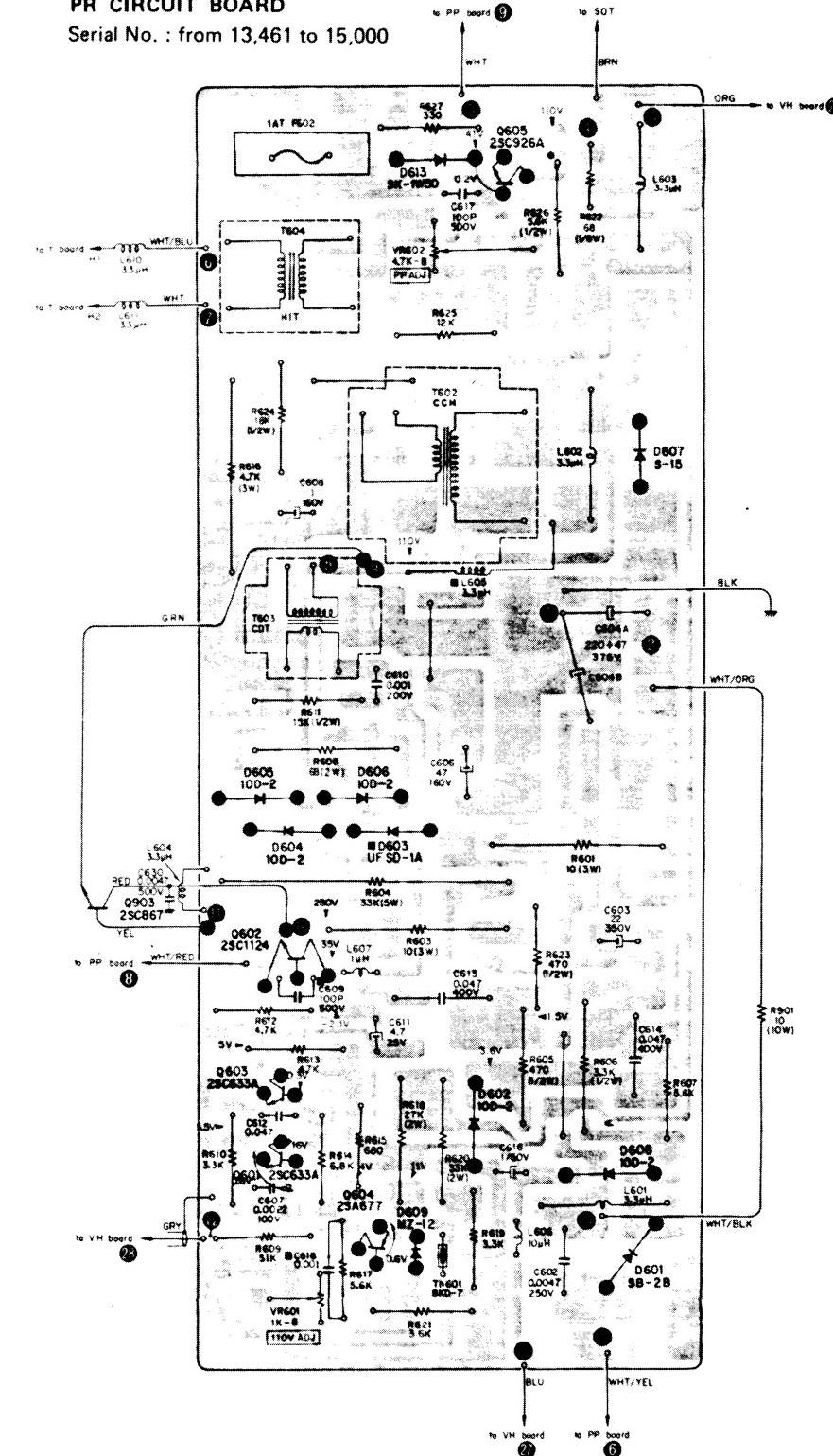
**Note:**

1. All capacitors are 50WV unless otherwise specified.
2. All resistors are 1/2W unless otherwise specified.
3. All resistance values are in ohms. k = 1,000.
4. All capacitance values are in  $\mu\text{F}$  except as indicated with p, which means  $\mu\mu\text{F}$ .
5. Voltages measured from chassis to point indicated with a VOM (DC 20 k ohms/V) at color signal input.
6. The parts marked \* indicates a component whose value is selected to yield specified operating condition.
7. The blue circled numbers ( ● ~ ☺ ) refer to waveform on page 51 and 52.

**Chassis No. SCC-22A-A  
SCC-22A-B**



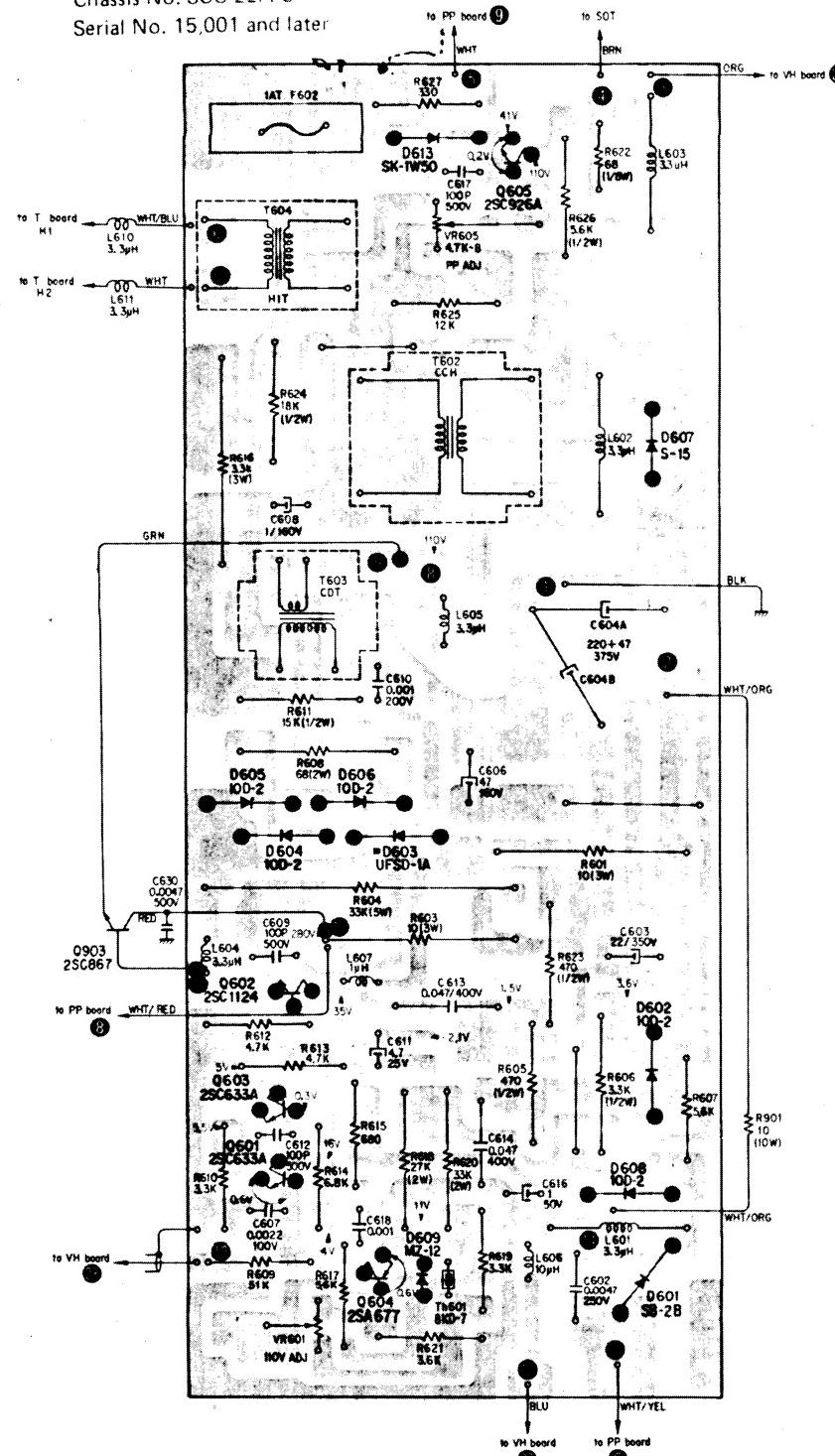
**PR CIRCUIT BOARD**  
Serial No. : from 13,461 to 15,000



## PR CIRCUIT BOARD

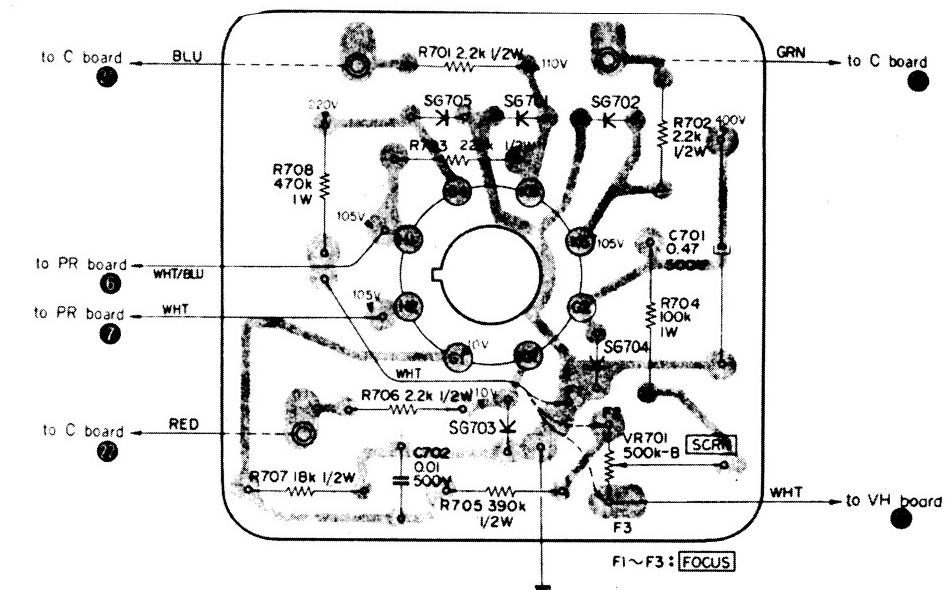
Chassis No. SCC 22A C

Serial No. 15,001 and later



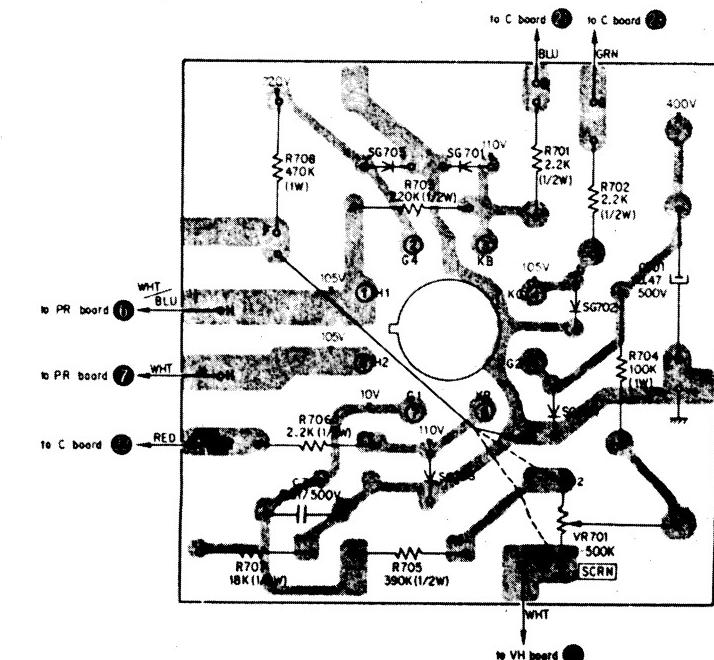
## T CIRCUIT BOARD

Applicable serial No. up to 19,000



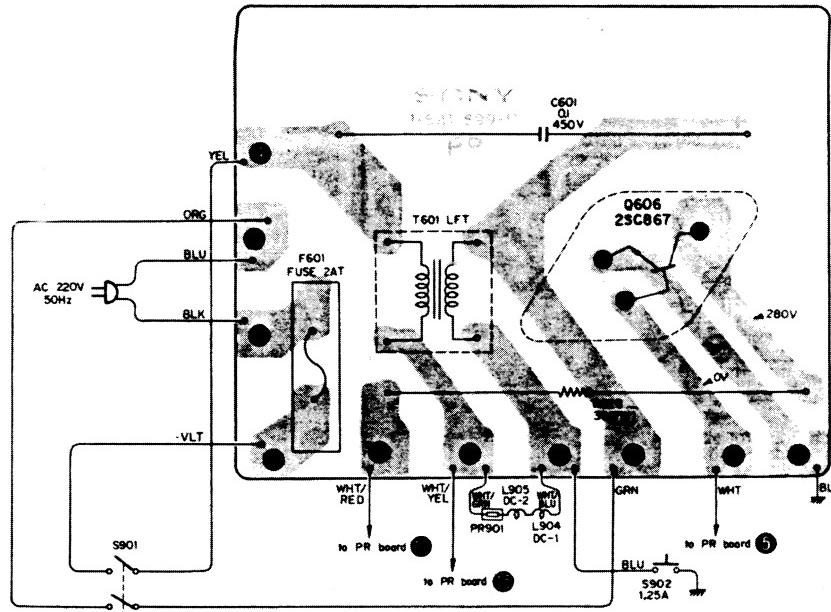
## T CIRCUIT BOARD

Applicable serial No. 19,001 and later



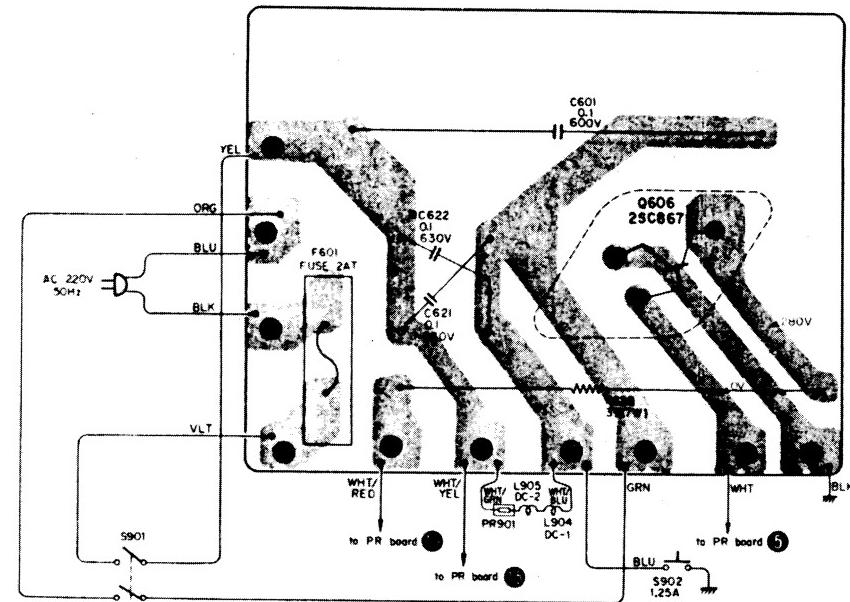
## **PP CIRCUIT BOARD**

**Serial No. Up to 14,000**



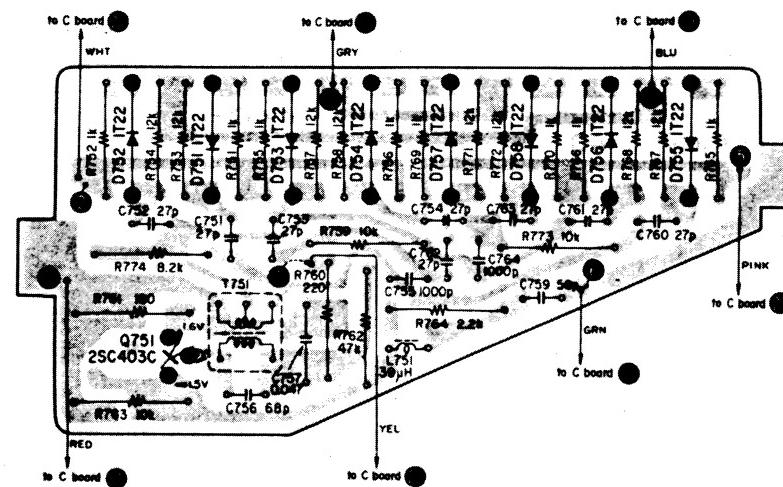
## **PP CIRCUIT BOARD**

Serial No. : from 14,001 to 15,000



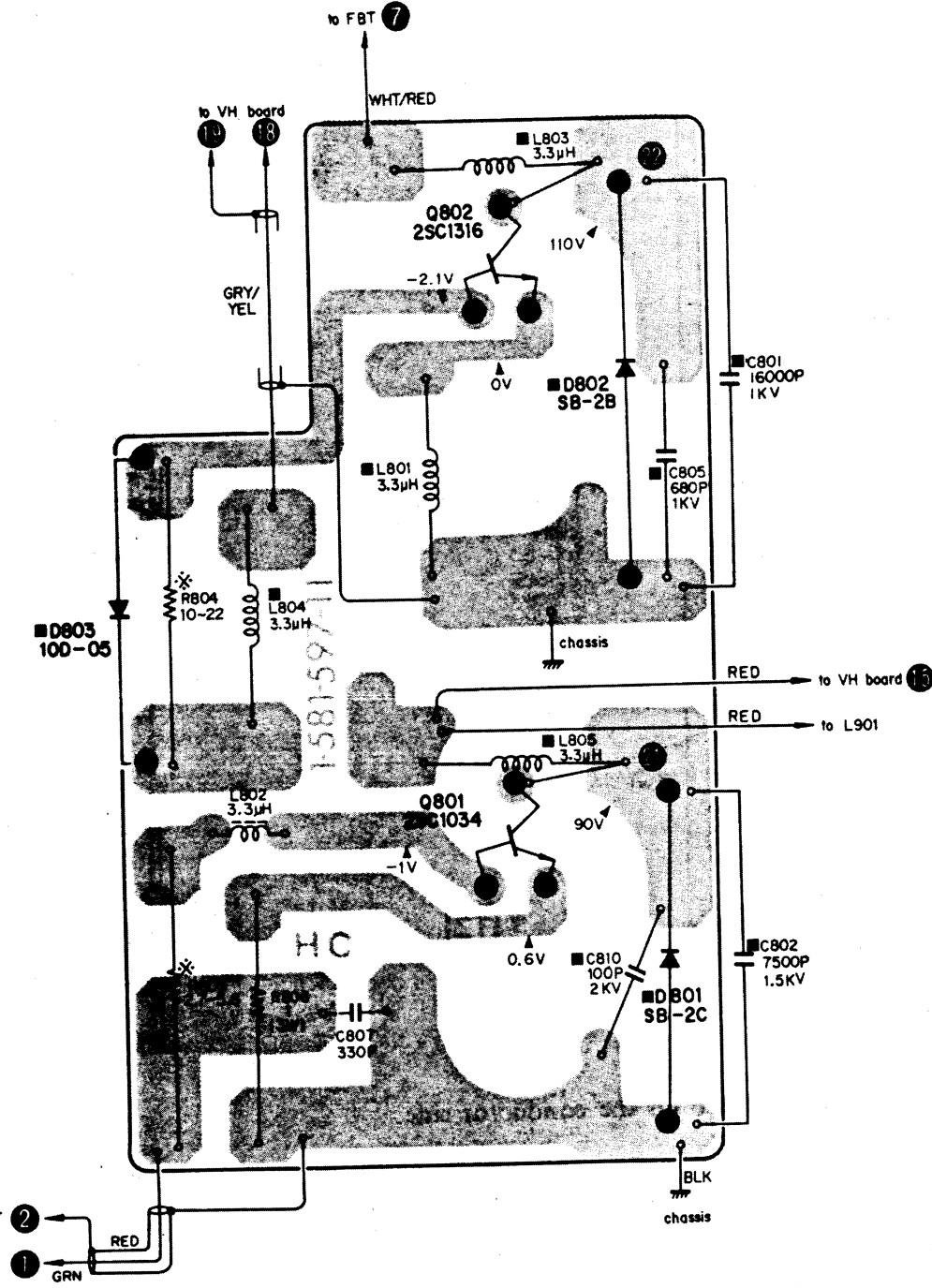
CA CIRCUIT BOARD

**Chassis No. SCC-22A-A, SCC-22A-B**



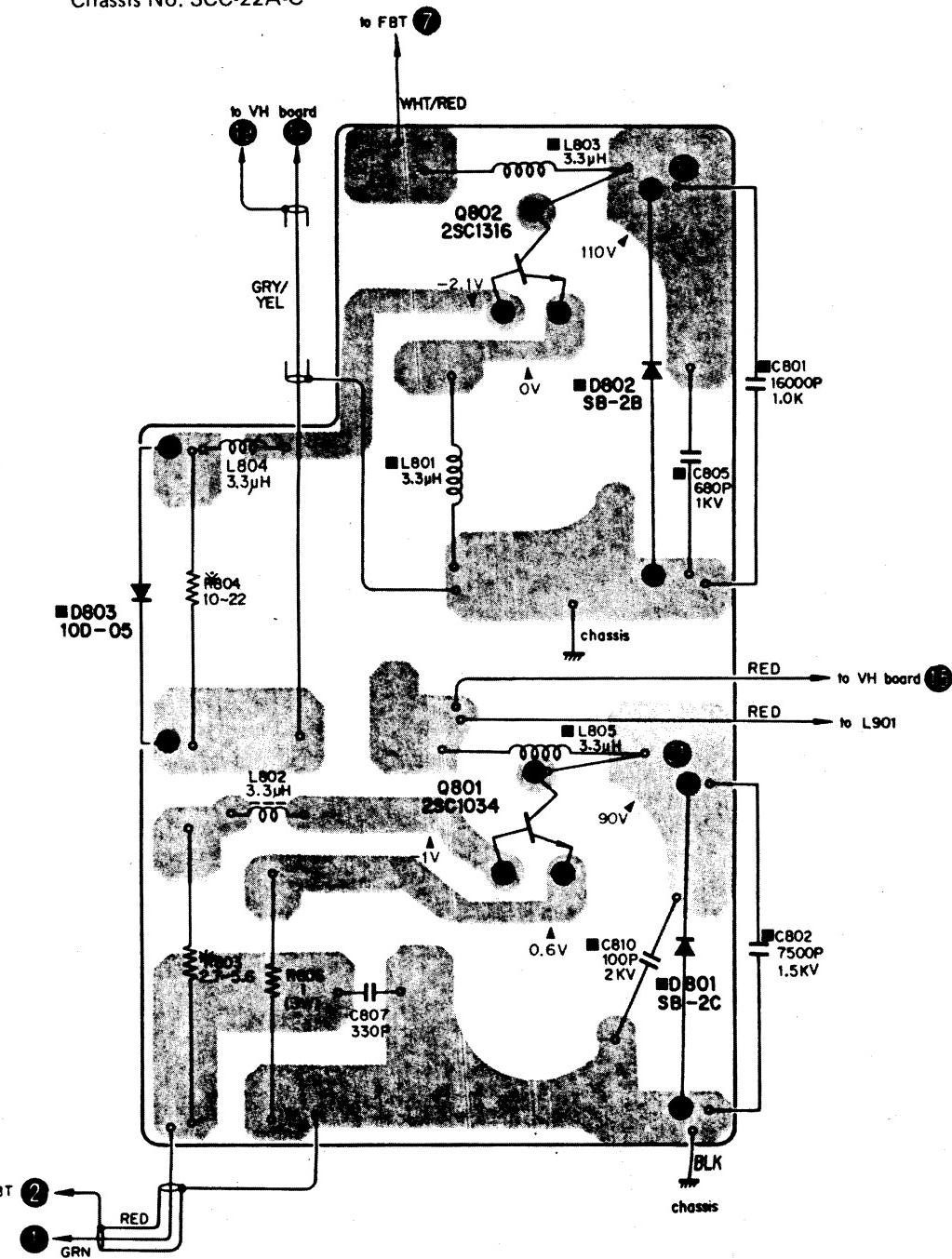
## HC CIRCUIT BOARD

Chassis No. SCC-22A-A, SCC-22A-B



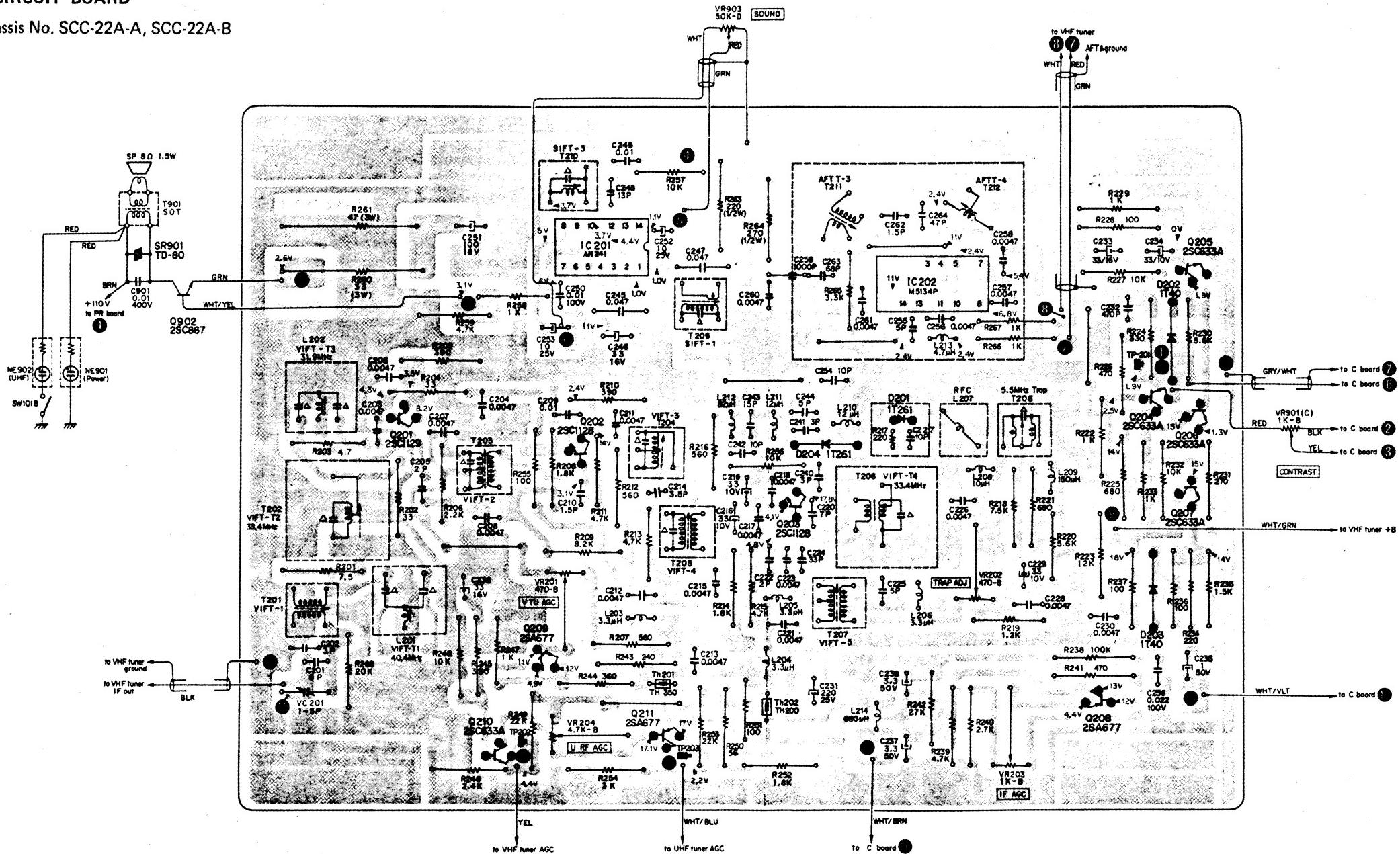
## HC CIRCUIT BOARD

Chassis No. SCC-22A-C



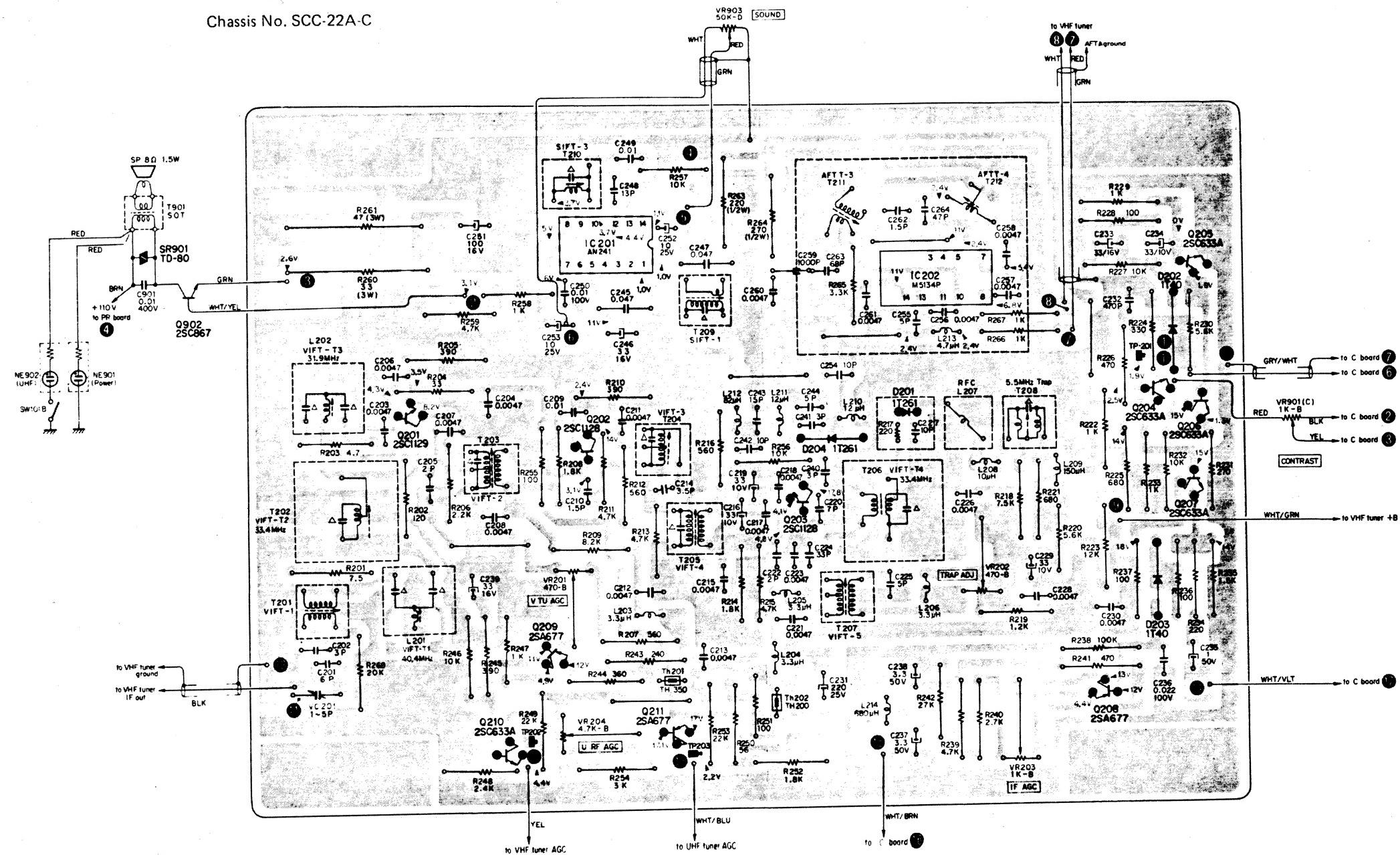
## S CIRCUIT BOARD

**Chassis No. SCC-22A-A, SCC-22A-B**



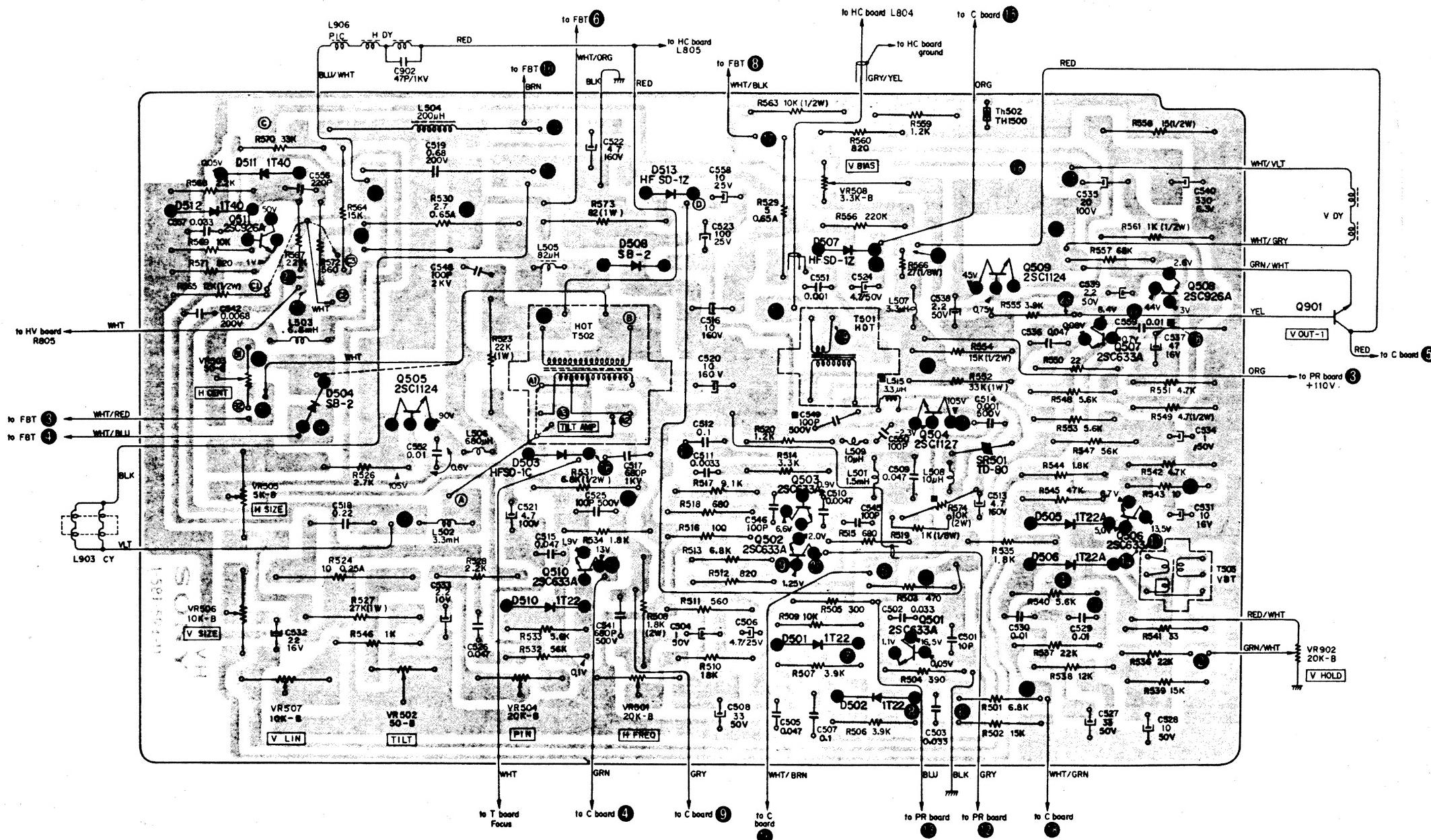
## S CIRCUIT BOARD

Chassis No. SCC-22A-C



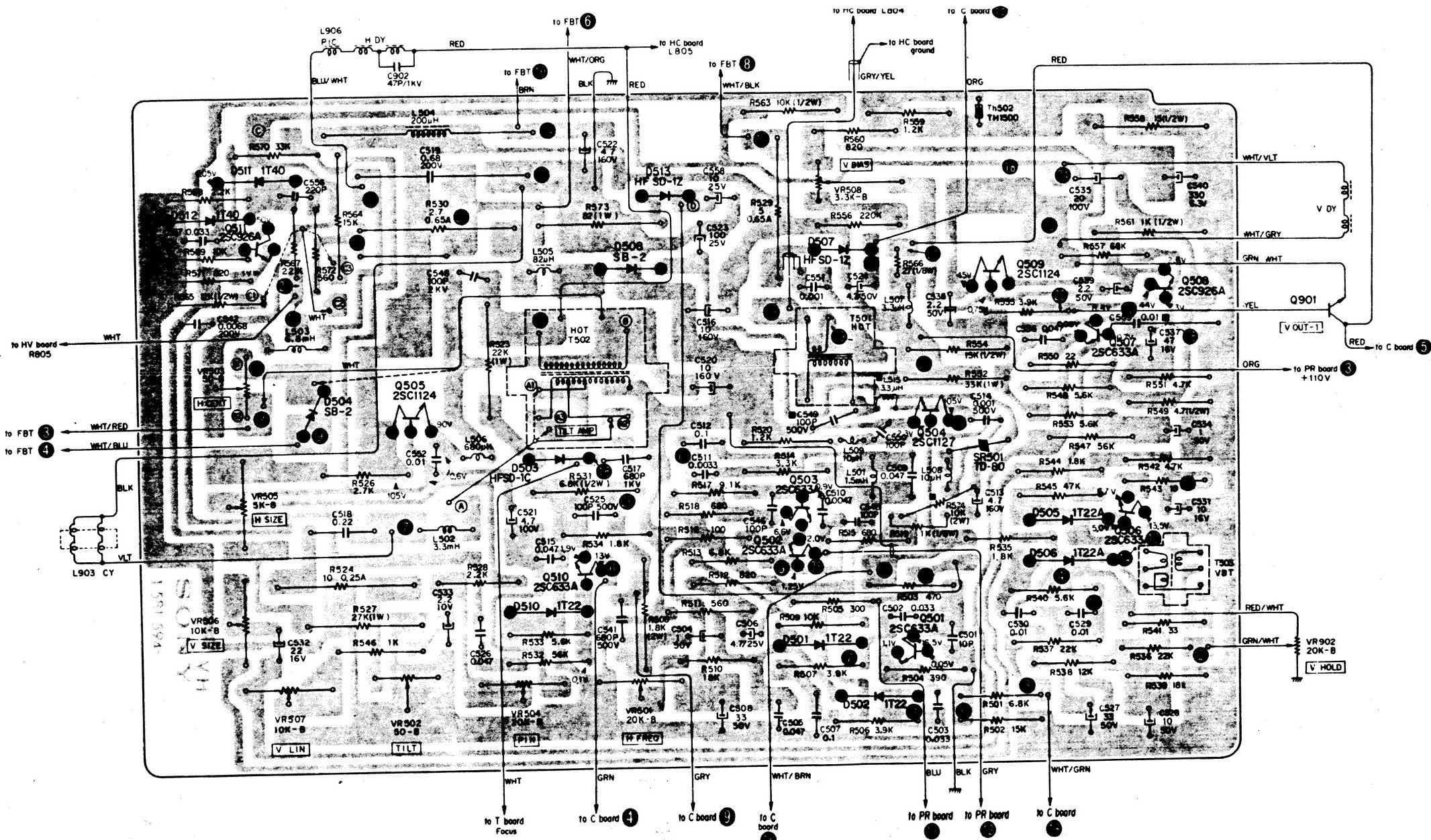
## VH CIRCUIT BOARD

**Chassis No. SCC-22A-A, SCC-22A-B**



# VH CIRCUIT BOARD

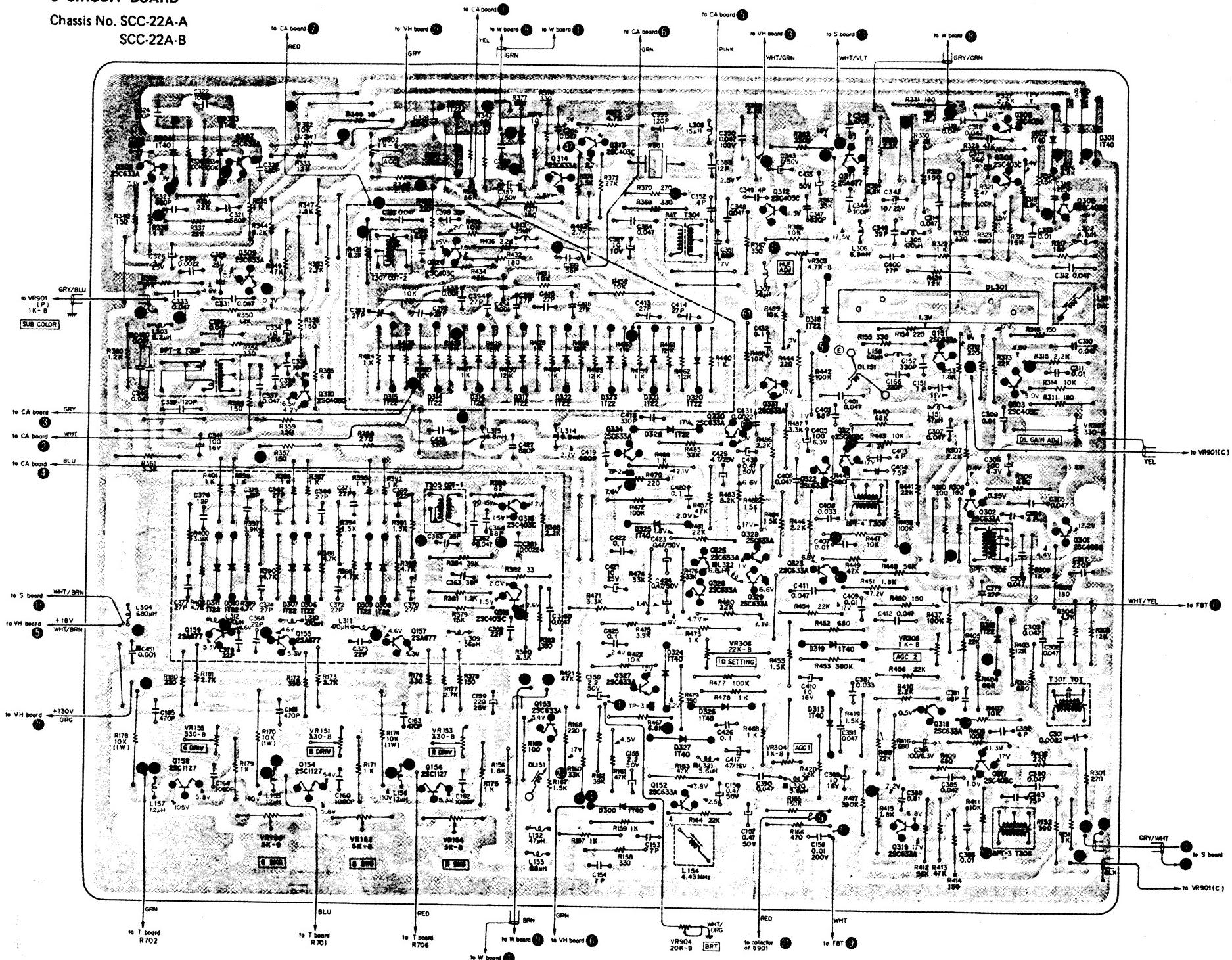
Chassis No. SCC-22A-C



## C CIRCUIT BOARD

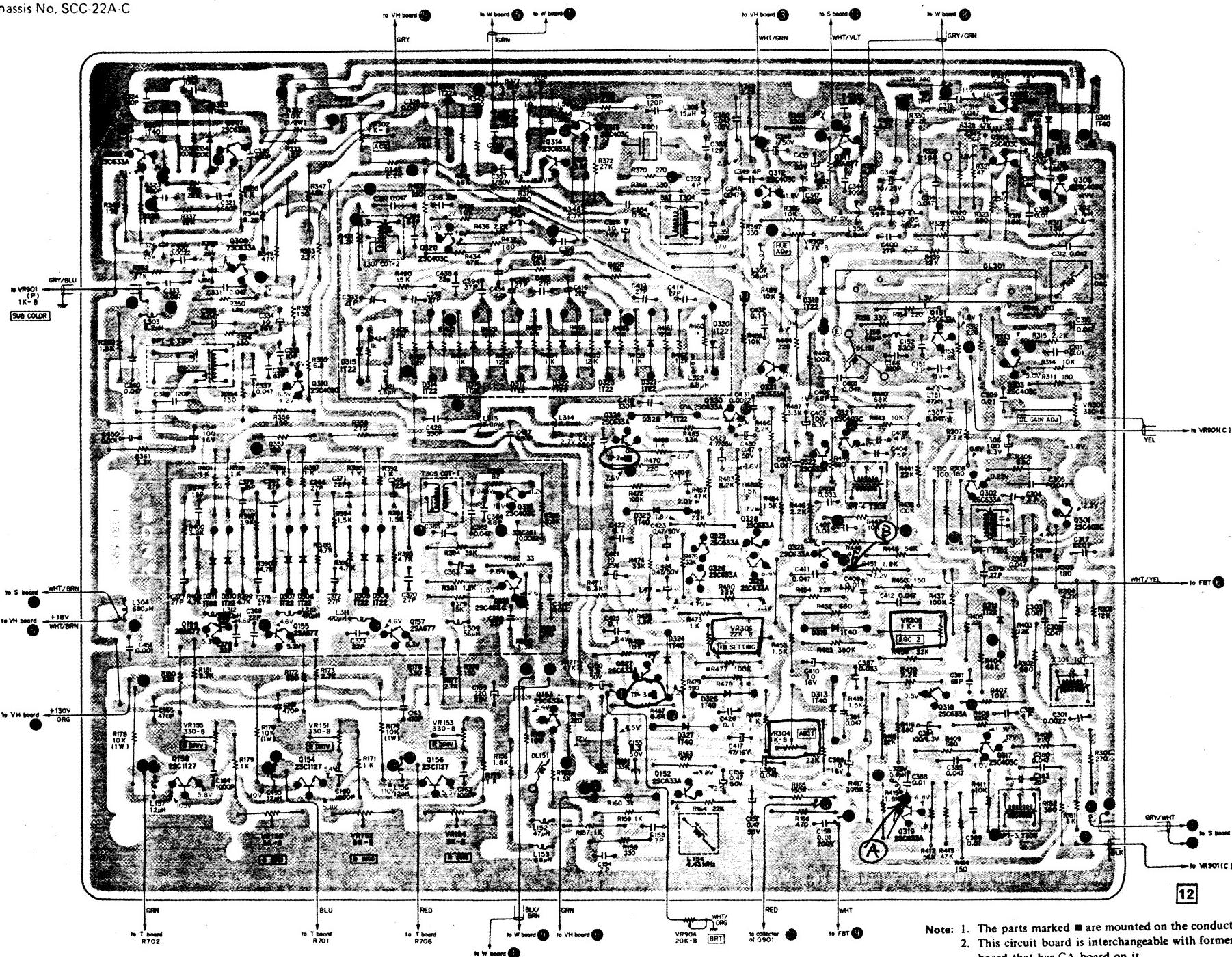
Chassis No. SCC-22A-A

SCC-22A-E



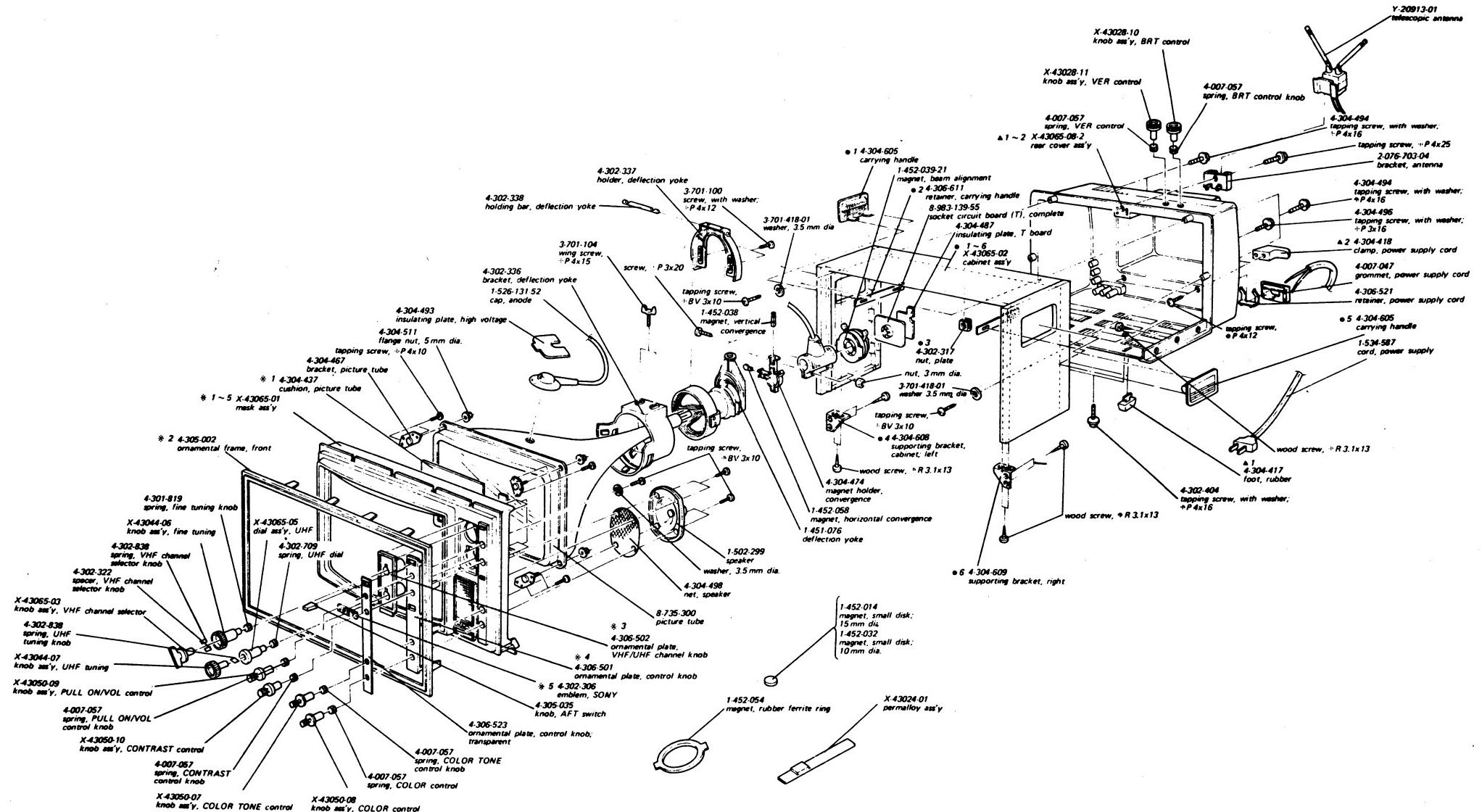
C CIRCUIT BOARD

Chassis No. SCC-22A-C



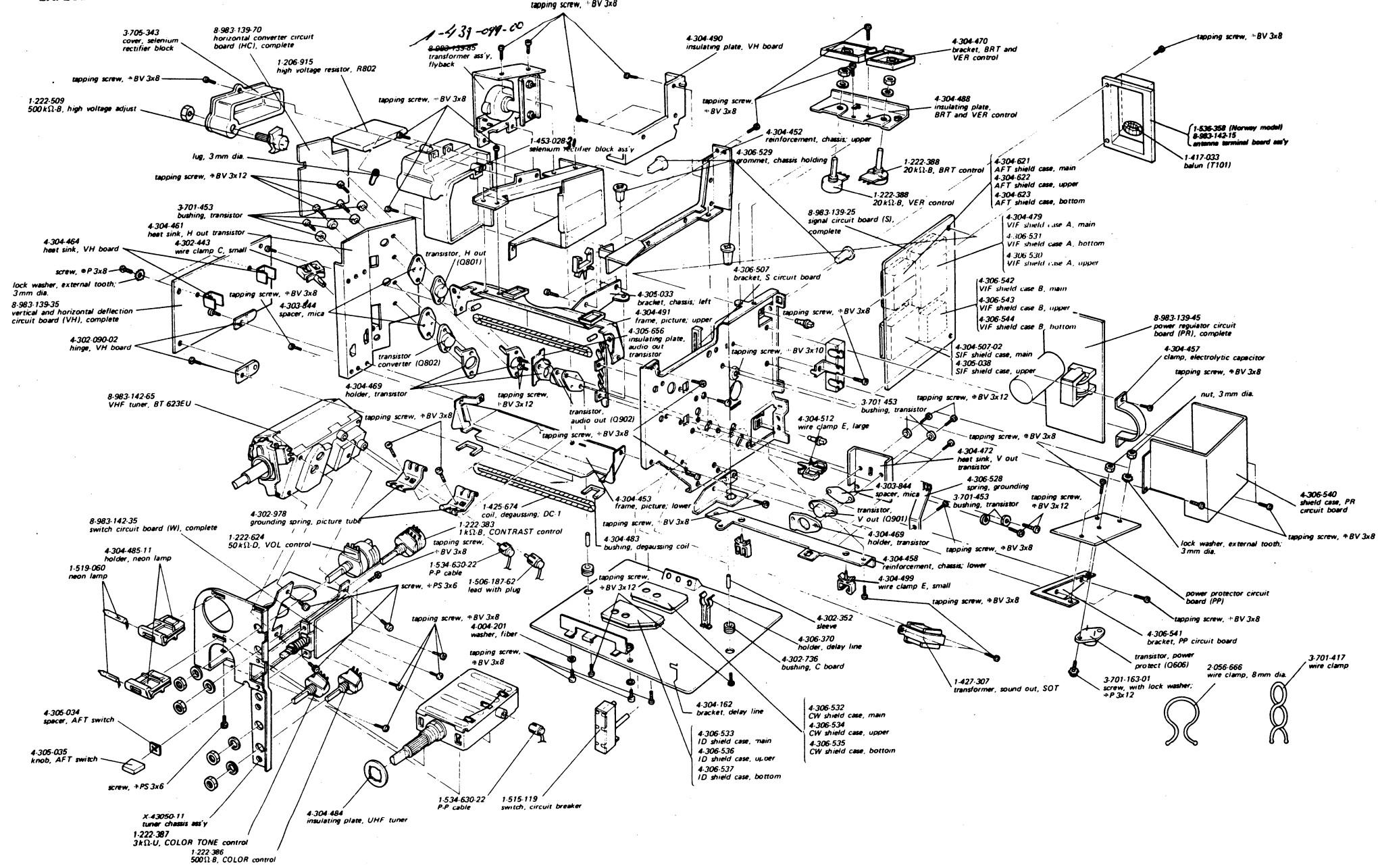
**Note:** 1. The parts marked ■ are mounted on the conductor side.  
2. This circuit board is interchangeable with former circuit board that has CA board on it.

**EXPLODED VIEW (1)**



Note: \* 1~5: X-43065-01 mask ass'y  
▲ 1~2: X-43065-08-2 rear cover ass'y  
● 1~6: X-43065-02 cabinet ass'y

## **EXPLODED VIEW (2)**



## ELECTRICAL PARTS LIST

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
<b>TUNERS AND CIRCUIT BOARDS</b>											
1-581-599-11	PP Board (power protector), SCC-22A-A/B	→ Q302 8-729-663-47 2SC1364	Q303-306	8-724-375-01	2SC403C	→ D314-318 8-719-422-21 1T22AM	Th201	1-800-071-00	Thermistor, TH-350		
1-581-599-12	PP Board (power protector), SCC-22A-C	→ Q307-309 8-729-663-47 2SC1364	Q310	8-724-375-01	2SC403C	→ D319 8-719-815-55 1S1555	Th202	1-800-059-00	Thermistor, TH-200		
8-983-139-70	HC Board (horizontal converter), complete	→ Q311 8-729-612-77 2SA1027R	Q312, 313	8-724-375-01	2SC403C	→ D320-323 8-719-422-21 1T22AM	Th502	1-800-069-00	Thermistor, TH-15000		
8-983-139-15	C Board (chroma circuit), complete	→ Q314 8-729-663-47 2SC1364	Q315-317	8-724-375-01	2SC403C	→ D324-327 8-719-815-55 1S1555	Th601	1-800-081-00	Thermistor, 8KD-7		
8-983-139-25	S Board (signal circuit), complete	→ Q318, 319 8-729-663-47 2SC1364	Q320, 321	8-724-375-01	2SC403C	→ D328 8-719-422-21 1T22AM	SR501, 901	1-800-032-00	Varistor, TD-80		
8-983-139-35	VH Board (vertical horizontal deflection), complete	→ Q322-331 8-729-668-47 2SC1364	Q322-331	8-729-668-47	2SC1364	→ D501, 502 8-719-422-21 1T22AM	PR901	1-800-080-00	Thermistor (positive)		
8-983-139-45	PR Board (power regulator), complete		Q323	8-729-663-47	2SC1364	→ D503 8-719-305-15 GH3F	<b>MISCELLANEOUS</b>				
8-983-139-55	T Board (socket circuit), complete		Q324	8-729-663-47	2SC1364	→ D504 8-719-305-15 GH3F	<b>COIL</b>				
8-983-139-85	Transformer Ass'y, flyback (T801)		Q325	8-729-663-47	2SC1364	→ D505, 506 8-719-422-21 1T22AM	All coils are microinductors unless otherwise noted.				
8-983-142-15	Antenna Terminal Board Ass'y including	→ Q501-503 8-729-663-47 2SC1364	Q504, 505	8-725-412-00	2SC1124	→ D507 8-719-305-15 GH3F	L151, 152	1-407-165-00	47μH		
1-536-358-00	(1-536-358 : Norway model)	→ Q506, 507 8-729-663-47 2SC1364	Q508	8-729-255-12	2SC2551	→ D508 8-719-305-15 GH3F	L153	1-407-167-00	68μH		
1-417-033-00	Balun (T101)	→ Q509 8-725-412-00 2SC1124	Q510	8-729-663-47	2SC1364	→ D510 8-719-422-21 1T22AM	L154	1-409-193-00	Coil, wave trap; 4.43MHz		
1-508-492-00	Antenna Socket, UHF		Q511	8-729-255-12	2SC2551	→ D511, 512 8-719-815-55 1S1555	L155-157	1-407-158-00	124H		
1-508-493-00	Antenna Socket, VHF		Q601	8-729-663-47	2SC1364	→ D513 8-719-305-15 GH3F	L158	1-407-167-00	68μH		
3-705-455-00	Plate, antenna terminal		Q602	8-725-412-00	2SC1124	→ D601 8-719-302-22 SB-2B	L201	1-409-214-00	VIFT-T1 40.4MHz		
1-581-591-00	Antenna Board		Q603	8-729-663-47	2SC1364	→ D602 8-719-200-02 10E2	L202	1-409-215-00	VIFT-T3 31.9MHz		
1-417-040-00	Transformer (T102) : Norway model		Q604	8-729-612-77	2SA1027R	→ D603 8-719-333-10 UF1C	L203-206	1-407-184-00	3.3μH		
8-983-142-25	UHF Tuner, BT-123		Q605	8-729-255-12	2SC2551	→ D604-606 8-719-200-02 10E2	L207	1-425-504-00	RF Choke		
8-983-142-35	W Board (switch circuit), complete		Q606	8-765-132-00	2SC867A	→ D607 8-719-301-51 S-1SH	L208	1-407-190-00	10μH		
8-983-142-65	VHF Tuner, BT-623EU		Q751	8-724-375-01	2SC403C	→ D608 8-719-200-00 10E2	L209	1-407-171-00	150μH		
<b>SEMICONDUCTORS</b>											
Transistors											
→ Q151-153	8-729-663-47	2SC1364	Q801	8-723-424-16	2SC1034	→ D609 8-719-930-12 EQB01-12Z	L210, 211	1-407-158-00	12μH		
→ Q154, 156,	8-729-322-78	2SC2278	Q802	8-728-693-00	2SC1316	→ D613 8-719-200-50 SK-1W50	L212	1-407-168-00	82μH		
→ Q158			→ Q901-903	8-765-132-00	2SC867A	→ D751-758 8-719-422-21 1T22AM (SCC-22A-A/B only)	L213	1-407-186-00	4.7μH		
→ Q155, 157,	8-729-612-77	2SA1027R	Q803	8-729-663-47	2SC1364	→ D801 8-719-305-15 GH3F	L214	1-407-557-00	680μH		
Q201	8-725-923-00	2SC1129	D201	8-719-026-11	1T261	→ D802 8-719-302-22 SB-2B	L291	1-407-166-00	56μH		
Q202, 203	8-725-800-00	2SC1128	→ D201, 203	8-719-815-55	1S1555	→ D803 8-719-200-02 10E2	L301	1-425-671-00	DAC		
→ Q204-207	8-729-663-47	2SC1364	D204	8-719-026-11	1T261	DC801 1-453-028-21 Selenium Rectifier Block Ass'y	L302	1-407-186-00	4.7μH		
→ Q208, 209	8-729-612-77	2SA1027R	→ D300	* 8-719-815-55	1S1555	including	Q303	1-407-189-00	8.2μH		
→ Q210	8-729-663-47	2SC1364	→ D301-304	8-719-815-55	1S1555	1-222-509-00 500kΩ-B, adjustable; VR801 (High Voltage)	L304	1-407-557-00	680μH		
→ Q211	8-729-612-77	2SA1027R	D305	8-719-422-21	1T22AM	1-206-915-00 High Voltage Resistor, R802	L305	1-407-177-00	470μH		
Q301	8-724-375-01	2SC403C	→ D306-312	8-719-422-21	1T22AM	<b>ICs</b>					
			→ D313	8-719-815-55	1S1555	→ IC201 8-759-311-25 HA1125	L306	1-407-204-21	6.8mH		
						IC202 8-759-651-34 M-5134P	L307	1-407-166-00	56μH		
							L308	1-407-159-00	15μH		
							L309	1-407-166-00	56μH		
							L310-312	1-407-177-00	470μH		
							L313	1-407-164-00	39μH		
							L314, 315	1-407-595-00	6.8mH		
							L320, 321	1-407-186-00	5.6μH		
							L322	1-407-188-00	6.8μH		

**Note:**

→: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

The mark \* indicates the parts which is changed after serial No. 15,001.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>					
L501	1-407-552-00	1.5mH	T306	1-403-846-21	BPT-3	* C622	1-129-739-00	0.1	630V	film	R608	1-206-483-00	68	2W	metal oxide	
L502	1-459-075-00	3.3mH, dynamic convergence	T307	1-425-618-21	COT-2	* C623	1-108-745-21	0.22	250V	mylar	R616	1-206-741-00	4.7	3W	metal oxide	
L503	1-459-074-00	6.8mH, horizontal centering	T308	1-403-846-21	BPT-4	C630	1-102-085-00	0.0047	500V		R618	1-206-698-00	27k	2W	metal oxide	
L504	1-407-346-00	200 $\mu$ H Choke, spook	T501	1-437-030-00	HDT	C701	1-119-327-00	0.47	500V	elect	R620	1-206-700-00	33k	2W	metal oxide	
L505	1-407-553-00	82 $\mu$ H Choke, spook	T502	1-439-097-00	HOT	C702	1-102-050-00	0.01	500V		R622	1-211-931-00	68	1/8W	carbon	
L506	1-407-193-21	680 $\mu$ H	T503	1-435-008-00	VBT	C801	1-129-864-00	16,000p	1000V	film	R628	1-207-942-00	39	7W	wire wound	
L507	1-407-364-00	3.3 $\mu$ H Choke	* T601	1-421-302-21	LFT	C802	1-129-859-00	7500p	1500V	film	R701, 702	1-202-581-00	2.2k	1/4W	composition	
L508, 509	1-407-190-00	10 $\mu$ H	T602	1-437-032-00	CCH	C804	1-102-155-00	330p	2kV		R703	1-202-627-00	220k	1/4W	composition	
L515	1-407-364-00	3.3 $\mu$ H	T603	1-437-033-00	CDT	C805	1-102-219-00	680p	1kV		R704	1-202-800-00	100k	1/4W	composition	
L601-605	1-407-364-00	3.3 $\mu$ H	T604	1-441-855-00	HIT	C806	1-102-038-00	0.001	500V		R705	1-202-635-00	390k	1/4W	composition	
L606	1-407-190-00	10 $\mu$ H	* T751	1-425-618-00	COT-3	C808, 809	1-102-038-00	0.001	500V		R706	1-202-581-00	2.2k	1/4W	composition	
L607	1-407-178-00	1 $\mu$ H	T901	1-427-307-00	SOT	C810	1-102-153-00	100p	2kV		R707	1-202-603-00	18k	1/4W	composition	
L610, 611	1-407-364-00	3.3 $\mu$ H				C901	1-105-793-00	0.01	400V	mylar	R708	1-202-808-00	470k	1W	composition	
L801-805	1-407-364-00	3.3 $\mu$ H														
L904, 905	1-425-674-00	Degauss (DC-1, 2)														
L906	1-452-039-21	Beam Alignment Magnet														
DL151	1-415-047-00	Delay Line														
DL301	1-415-046-00	Delay Line														
* L751	1-407-164-00	39 $\mu$ H (SCC-22A-A/B)														
		TRANSFORMERS														
T201	1-403-728-00	VIFT-1														
T202	1-409-217-00	VIFT-T2 33.4MHz														
T203	1-403-729-00	VIFT-2														
T204	1-403-841-00	VIFT-3														
T205	1-403-729-00	VIFT-4														
T206	1-409-218-00	VIFT-T4 33.4MHz														
T207	1-403-730-00	VIFT-5														
T208	1-409-235-00	Coil, wave trap; 5.5MHz														
T209	1-403-842-00	SIFT-1														
T210	1-403-843-00	SIFT-3														
T211	1-403-810-00	AFT T3														
T212	1-403-811-00	AFT T4														
T301	1-403-844-21	TOT														
T302	1-403-845-21	BPT-1														
T303	1-425-506-21	BPT-2														
T304	1-405-372-21	BAT														
T305	1-425-618-21	COT-1														
			C604	1-125-080-00	220	375V	elect	R573	1-206-080-00	82	1W	metal oxide	VR301	1-222-515-00	330, adjustable; DL GAIN	
			C606	1-121-919-00	47	160V	elect	R574	1-206-688-00	10k	2W	metal oxide	VR302	1-222-517-00	1k, adjustable; ACC	
			C608	1-121-189-00	1	160V	elect	R601	1-207-657-00	10	3W	wire wound	VR303	1-222-518-00	4.7, adjustable; COLOR	
			C609	1-108-810-00	100p	500V		R603	1-207-657-00	10	3W	wire wound	VR304	1-222-517-00	1k, adjustable; AGC-1	
			C613, 614	1-105-801-13	0.047	400V	mylar	R604	1-206-823-00	33k	5W	metal oxide	VR305	1-222-517-00	1k, adjustable; AGC-2	
			C617	1-101-810-00	100p	500V							VR306	1-222-786-00	22k, adjustable; ID SETTING	
			* C621	1-129-739-00	0.1	630V	film (SCC-22A-C)									

All capacitors are in  $\mu$ F and ceramic unless otherwise noted.

50WV or less are not indicated except for electrolytics.

p :  $\mu$ uF, elect : electrolytic

All resistors are in ohms. Common 1/4W carbon resistors are omitted.

Refer to the list on the last page for their part numbers.

All variable and adjustable resistors have characteristic curve B, unless otherwise noted. k $\Omega$  : 1000 $\Omega$ , M $\Omega$  : 1000k $\Omega$

* R803	1-206-918-00	2.7	3W	metal film
	1-206-921-00	4.7	3W	metal film
	1-206-922-00	5.6	3W	metal film
* R804	1-206-925-00	10	3W	metal film
	1-206-927-00	15	3W	metal film
	1-206-928-00	18	3W	metal film
	1-206-929-00	22	3W	metal film

R805	1-202-788-00	10k		composition
R806	1-217-007-00	1	3W	cement coated
R901	1-205-483-00	10	10W	cement coated

VR151	1-222-515-00	330, adjustable; B. DRIVE
VR152	1-222-344-00	5k, adjustable; B. BKG
VR153	1-222-515-00	330, adjustable; R. DRIVE
VR154	1-222-344-00	5k, adjustable; R. BKG
VR155	1-222-515-00	330, adjustable; G. DRIVE

VR156	1-222-344-00	5k, adjustable; G. BKG
VR201	1-222-516-00	470, adjustable; AGC
VR202	1-222-516-00	470, adjustable; TRAP
VR203	1-222-517-00	1k, adjustable; IF AGC
VR204	1-222-518-00	4.7k, adjustable; UHF RF AGC

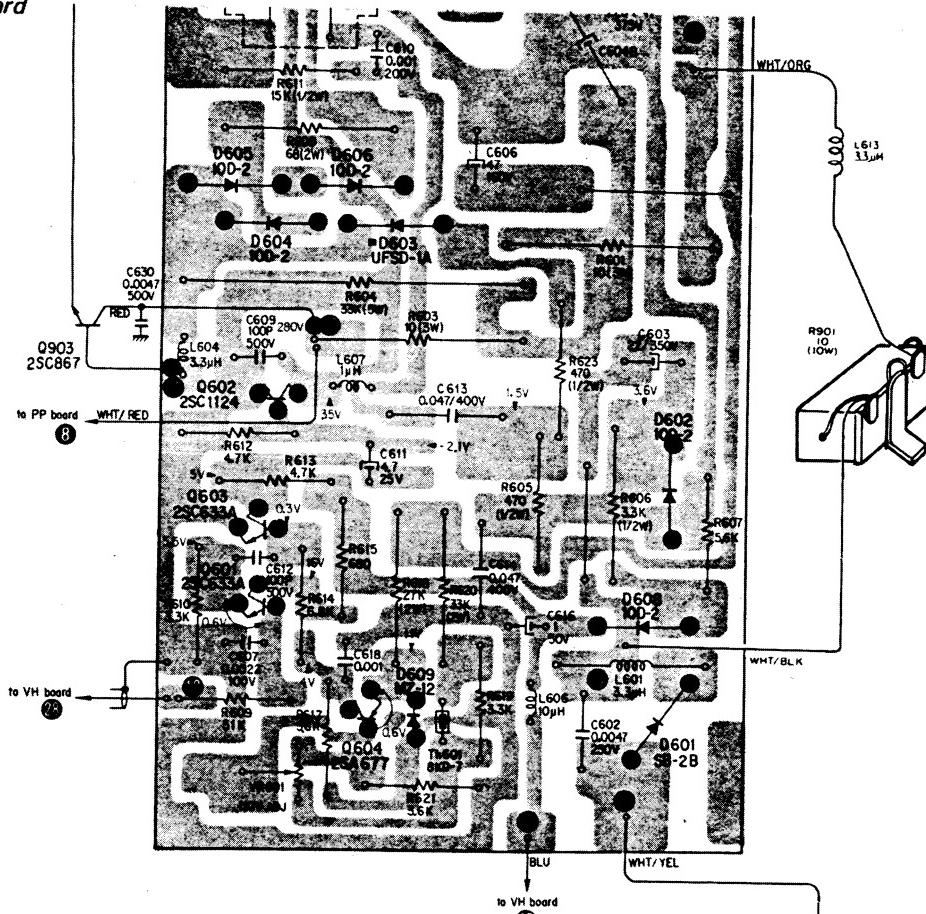
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
VR501	1-222-725-00	20k, adjustable; H. FREQ
VR502	1-223-017-00	50k, adjustable; TILT
VR503	1-223-017-00	50k, adjustable; H. CENT
VR504	1-222-725-00	20k, adjustable; PIN
VR505	1-222-344-00	5k, adjustable; H. SIZE
VR506	1-222-512-00	10k, adjustable; V. SIZE
VR507	1-222-512-00	10k, adjustable; V. LIN
VR508	1-222-784-00	3.3k, adjustable; V. BIAS
VR601	1-222-517-00	1k, adjustable; 110V
VR602	1-222-518-00	4.7k, adjustable; PP
VR701	1-222-809-00	500k, adjustable; SCRN
VR801	1-222-509-00	500k, adjustable; H. STAT
VR901	1-222-383-00	1k, variable; CONTRAST
VR902	1-222-388-00	20k, variable; VER
VR903	1-222-624-00	50k-D, variable; VOL
VR904	1-222-388-00	20k, variable; BRT
VR905	1-222-387-00	3k-U, variable; COLOR TONE
VR906	1-222-386-00	500, variable; COLOR

#### MISCELLANEOUS

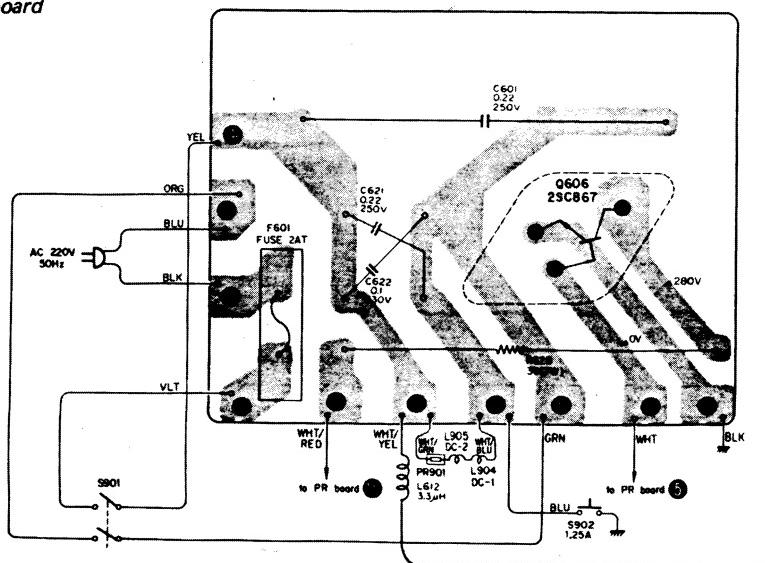
DY	1-451-676-11	Deflection Yoke
F601	1-532-203-00	Fuse, 2A
F602	1-532-078-00	Fuse, 1A
S902	1-515-119-00	Switch, circuit breaker
SG701-705	1-519-063-00	Spark Gap 1.5kV
NE901	1-519-060-00	Neon Lamp, POWER
NE902	1-519-060-00	Neon Lamp, UHF
VC201	1-141-138-00	1 - 5pF, trimmer
X301	1-527-183-00	Crystal
	1-452-014-00	Magnet, small disk; 15mm dia.
	1-452-032-00	Magnet, small disk; 10mm dia.
	1-452-038-00	Magnet, vertical convergence
	1-452-054-00	Magnet, rubber ferrite ring
	1-452-058-00	Magnet, horizontal convergence
	1-502-299-00	Speaker
	1-506-187-62	Lead, with plug
	1-514-897-00	Switch, pushbutton; AFT
	1-526-086-00	Socket, picture tube
	1-526-130-61	Cap, anode

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
	1-526-131-52	Cap, convergence
	1-526-144-00	Cap, lead
	1-533-087-00	Holder, fuse
	1-534-587-00	Card, power supply
	1-534-630-22	Cable, p-p
	1-536-296-00	Lug, terminal
	1-536-327-00	Lug 1L1, terminal
	1-543-040-00	Core
	8-735-200-05	Picture Tube, 330AB22

301



PP board



- Serial No. 24,701 and later -

KV-1300E

## SUPPLEMENT

No. 2  
May 1972

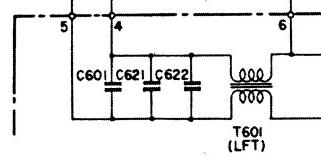
This supplement updates the service manual to include production changes starting with chassis number SCC-22A-A. File this supplement with the service manual.

- Subject:**
1. Production Change of PP circuit board
  2. ANT circuit board for West Germany model
  3. Change of deflection yoke
  4. Cabinet for West Germany model

## 1. PRODUCTION CHANGE OF PP CIRCUIT BOARD

## 1-1. Netherlands, Sweden, Denmark and Finland Models

Ref. No.	~15,000	15,001~19,000	19,001~21,000	21,001~24,700	24,701 and later
T601(LFT)	○	—	○	○	—
C601	0.1μF/450V	0.1μF/450V	—	0.22μF/250V	0.22μF/250V
C621	—	0.1μF/630V	—	—	—
C622	—	0.1μF/630V	—	—	0.1μF/630V

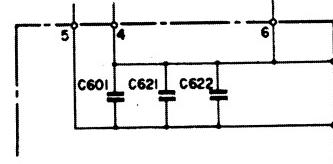


## Note:

1. The mark ○ in this list indicates that the component is used and the mark — not used.
2. After serial number 24,701, two micro inductors are added. See diagrams on page 2 and 3.

## 1-2. Switzerland Model

Ref. No.	15,001~19,000	19,001~21,000	21,001~24,700	24,701 and later
T601(LFT)	—	—	—	—
C601	0.1μF/450V	—	0.22μF/250V	0.22μF/250V
C621	0.1μF/630V	—	—	—
C622	0.1μF/630V	—	0.1μF/630V	0.1μF/630V



## Note:

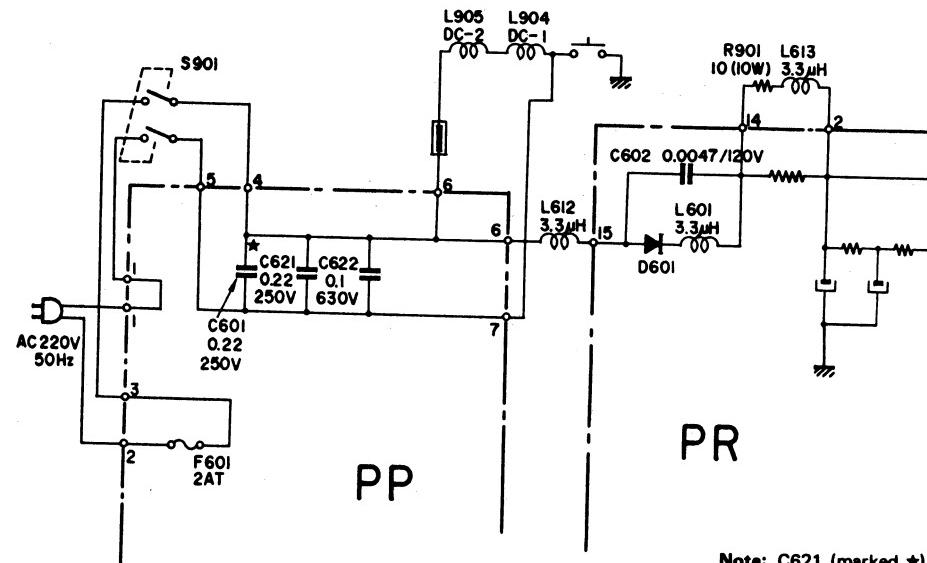
1. There is no Switzerland model between serial number 19,001 and 21,000.
2. The mark — in this list indicates that the component is not used.
3. After serial number 24,701, two micro inductors are added. See diagrams on page 2 and 3.

## West Germany Model

The set for West Germany has serial number 24,701 and later.  
See diagrams.

### Partial Schematic Diagram

— Serial No. 24,701 and later —



PP

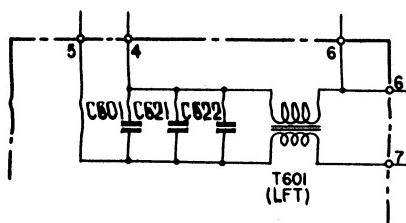
PR

Note: C621 (marked \*) is  
Norway model only.

C601	1-108-745-21	0.22	$\pm 20\%$	250WV	mylar
* C621	1-108-745-21	0.22	$\pm 20\%$	250WV	mylar
C622	1-129-739-00	0.1	$\pm 10\%$	630WV	film
L612	1-407-364-21	3.3 μH		micro inductor	
L613	1-407-364-21	3.3 μH		micro inductor	

Norway

Ref. No.	15,001~19,000	19,001~21,000	21,001~24,700	24,701 and later
T601(LFT)	○		○	—
C601	0.22 μF/250V		0.22 μF/250V	0.22 μF/250V
C621	0.1 μF/630V		—	0.22 μF/250V
C622	0.22 μF/250V	○	0.22 μF/250V	0.1 μF/630V



Note:

1. There is no Norway model between serial number 19,001 and 21,000.
2. The mark ○ in this list indicates that the component is used and the mark — not used.
3. After serial number 24,701, two micro inductors are added. See diagrams on page 2 and 3.

### ANT CIRCUIT BOARD FOR WEST GERMANY MODEL

ANT circuit board for West Germany model is the same with Norway model. T102 is added on the circuit board. See page 32 of Service Manual KV-1300E (Chassis No. SCC-22A-C, Serial No. 15,001 and later).

Parts	West Germany, Norway	Other Countries
ANT circuit board, complete	1-536-358-00	8-983-142-15
T102	1-417-040-00	omitted

### CHANGE OF DEFLECTION YOKE

Deflection yoke is changed after serial number 19,001. Former deflection yoke can be replaced by the new type.

Former	New
1-451-076-11	1-451-091-00

### CABINET FOR WEST GERMANY MODEL

In West Germany model, a new cabinet is used.

Parts	West Germany	Other Countries
Cabinet Ass'y	X-43065-10-0	X-43065-02-0
Rear Cover Ass'y	X-43065-09-0	X-43065-08-2

## SUPPLEMENT

## Subject: Electrical and Mechanical Changes

This supplement updates the service manual to include production changes on circuit and mechanical parts.  
File this supplement with the service manual.

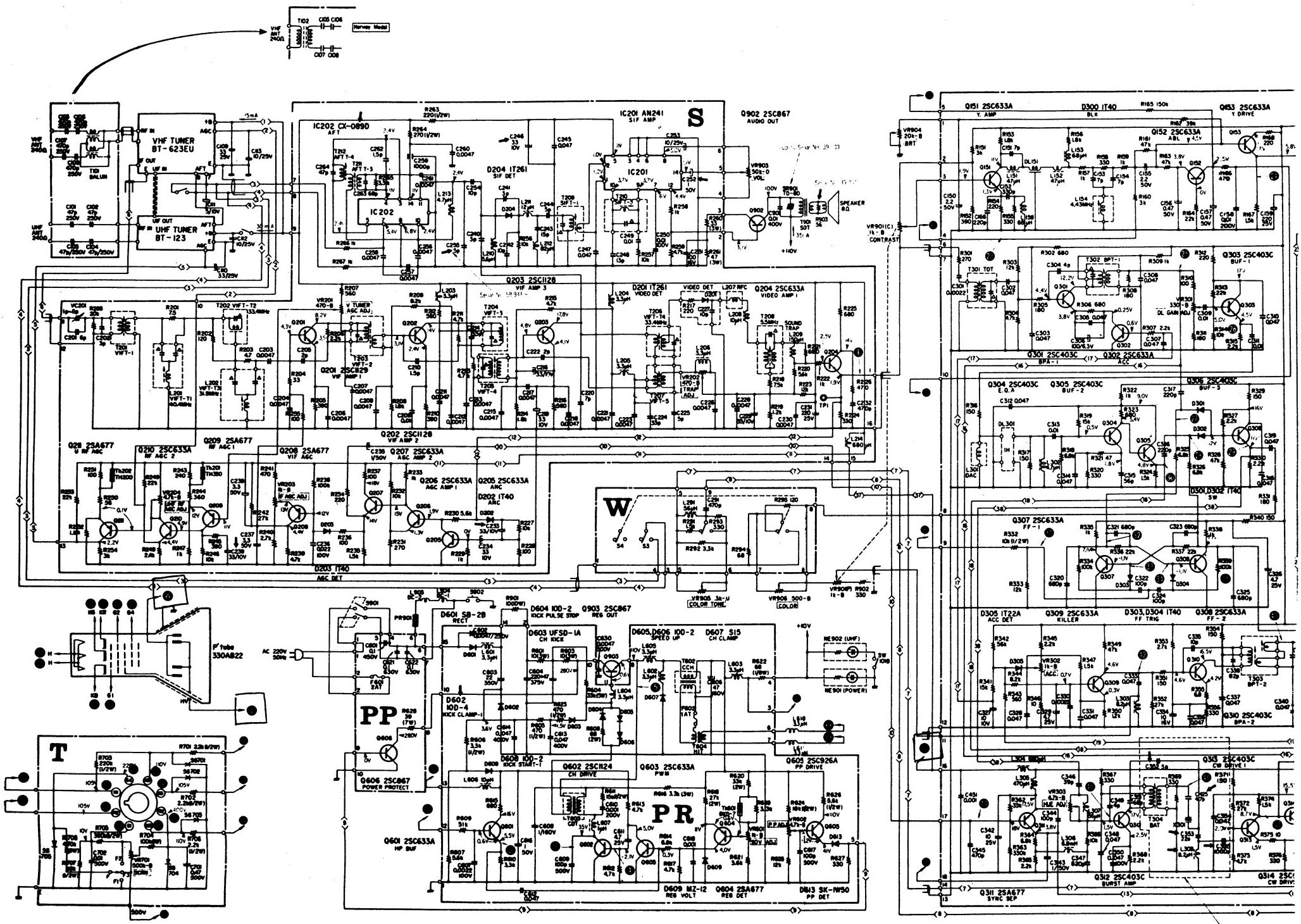
## 1. CHANGED PARTS LIST

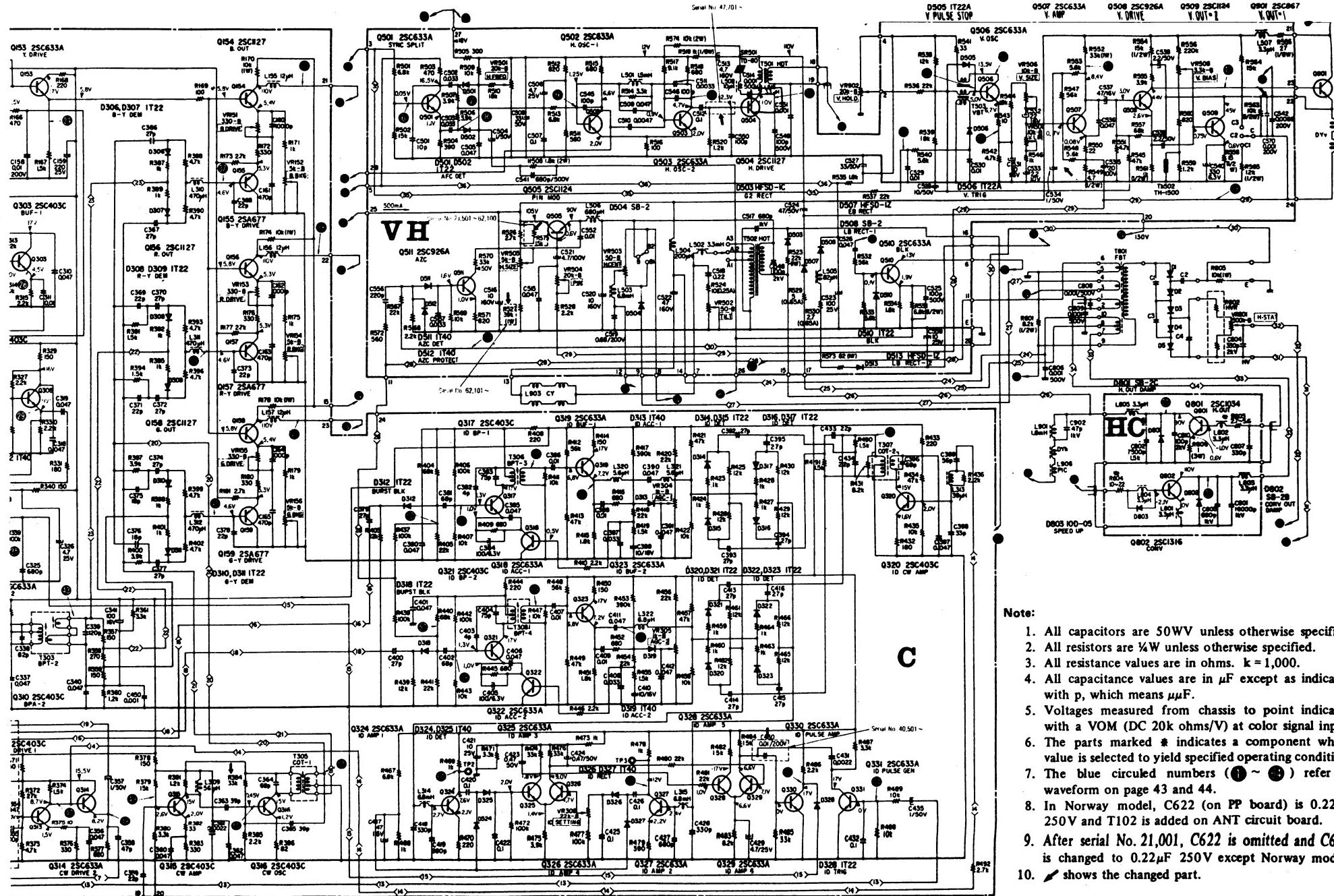
Ref. No.	Former Part Value	New Part No./Part Value	Applicable Serial No./Associated Circuit Board
C559	0.01μF/50V	-----	
C570	-----	1-105-741-12 0.001μF±10% 200V mylar	19,001～ , VH board
*R370	270 ohm	-----	
R384	39k ohm	1-244-709-11 33k ohm	19,001～ , C board
R527	-----	1-244-701-11 15k ohm	23,501～62,100, VH board
°R527	27k ohm	1-206-111-11 39k ohm 1W metal oxide	62,101～ , VH board
°R575	15k ohm	-----	
R903	-----	1-244-643-11 56 ohm	39,001～ , speaker circuit

Note: All resistance values are in 5% 1/4W carbon type unless otherwise indicated.

The parts marked \* or ° should be replaced altogether should replacement of any one of them be required.

Ref. No.	Former Part Value	New Part No./Part Value	Applicable Serial No./Associated Circuit Board
IC202	M5134P	CX-089D	58,941～ , S board
D602	10D-2	10D-4	19,001～ , PR board
SR901	TD80	-----	39,000～ , Speaker circuit
L210	12μH	1-407-187-00 5.6μH	58,941～ , S board
L509	10μH	-----	47,701～ , VH board
*L308	15μH	1-407-189-00 8.2μH	19,001～ , C board
C233 C239 C246	33μF/16V	1-121-402-11 33μF ±10% 10V electrolytic	unknown S board
C252	10μF/25V	1-121-391-11 1μF ±10% 50V electrolytic	19,001～ , S board
*C352	4pF	1-102-942-11 5pF ±0.5pF 50V ceramic	
*C353	12pF	1-102-959-11 22pF ±5% 50V ceramic	19,001～ , C board
*C355	120pF	1-101-455-11 1000pF ±20% 50V ceramic	
C430	0.47μF/50V electrolytic	1-106-753-12 0.01μF ±10% 200V mylar	40,501～ , C board
*C452	-----	1-101-880-11 47pF ±5% 50V ceramic	19,001～ , C board



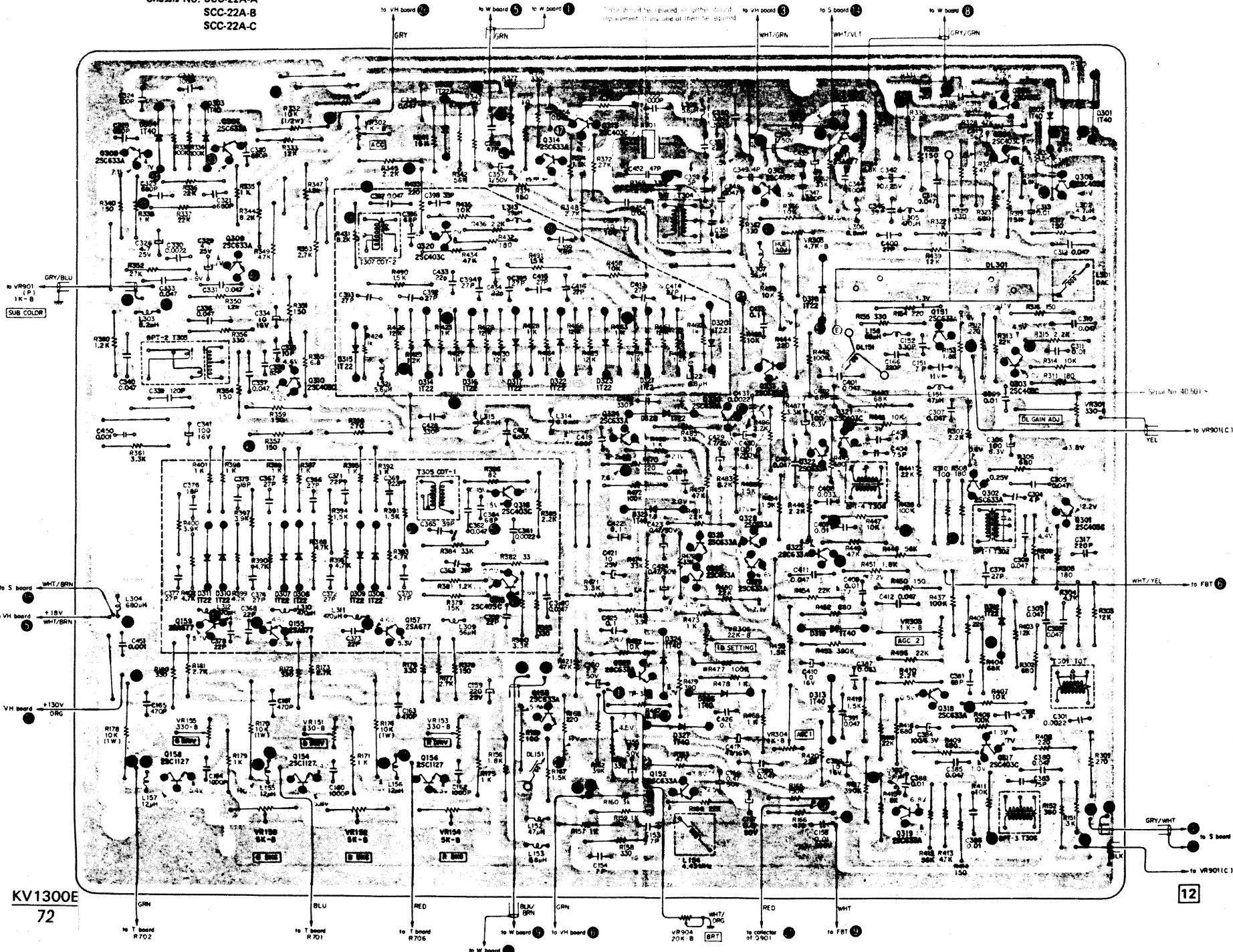


Note

1. All capacitors are 50WV unless otherwise specified.
  2. All resistors are 1/4W unless otherwise specified.
  3. All resistance values are in ohms. k = 1,000.
  4. All capacitance values are in  $\mu\text{F}$  except as indicated with p, which means  $\mu\text{mF}$ .
  5. Voltages measured from chassis to point indicated with a VOM (DC 20k ohms/V) at color signal input.
  6. The parts marked \* indicates a component whose value is selected to yield specified operating condition.
  7. The blue circled numbers (1 ~ 4) refer to waveform on page 43 and 44.
  8. In Norway model, C622 (on PP board) is 0.22 $\mu\text{F}$  250V and T102 is added on ANT circuit board.
  9. After serial No. 21,001, C622 is omitted and C601 is changed to 0.22 $\mu\text{F}$  250V except Norway model.
  10. ↗ shows the changed part.

**MOUNTING DIAGRAM – C Board –**

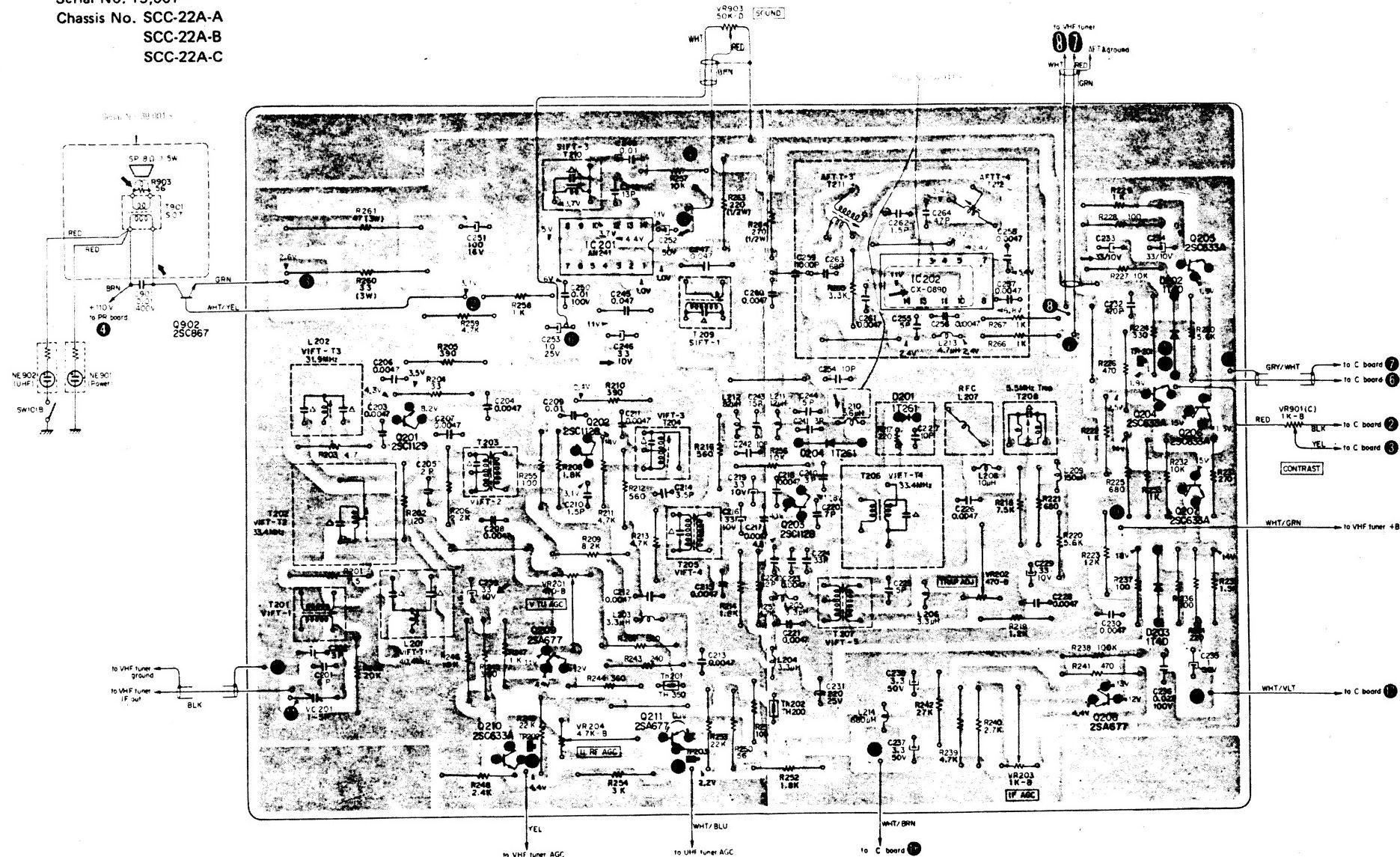
**Serial No. 19,001~**  
**Chassis No. SCC-22A-A**  
                  **SCC-22A-B**  
                  **SCC-22A-C**



Parts Location			
Q, IC	D	ADJ.	
	Q306	D301 D302	
	Q313	D305	VR302
	Q311	D304	
Q308	Q307	D303	
Q314	Q304		T304
Q305	Q312		
	Q320		T307 VR303
Q309		D318	L301
	Q151	D314 D315	
	Q303	D316	T303
	Q331	D317	
Q310		D322	
	Q330	D323	
		D321	
		D320	
	Q324	D328	VR301
	Q321		
	Q322		
	Q302		T308
Q316			T305
	Q301	D325	T302
	Q328	D311	
	Q325	D310	
	Q323	D307	
	Q329	D306	
	Q326	D309	
	Q315	D308	
Q158	Q155	D312 D319	VR305
Q157			VR306
		D324	
	Q327		T301
	Q318	D326	
Q153		D313	
	Q317	D327	VR155 VR151 VR153 VR304
Q158	Q154		
Q156			
Q152	Q319		VR156 VR152 VR154
			T306
			L154

## **MOUNTING DIAGRAM – S Board –**

**Serial No. 19,001~**  
**Chassis No. SCC-22A-A**  
**SCC-22A-B**  
**SCC-22A-C**

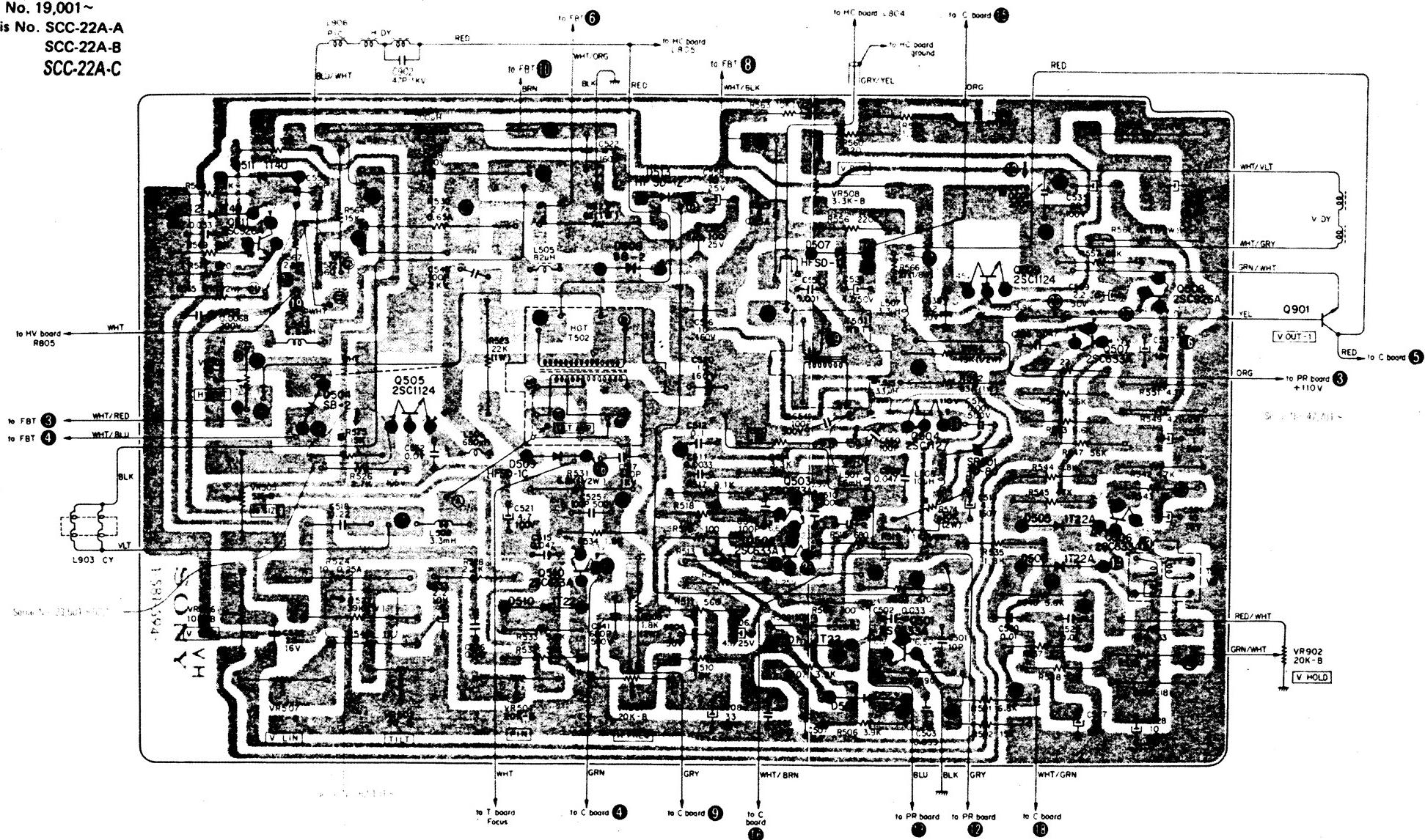


#### **Parts Locations**

Part Location		Q201		IC201		Q203		IC202		Q204		Q205	
Q, IC				Q209	Q202					Q208		Q206	Q207
				Q210		Q211							
D								D204	D201			D202	
ADJ.	L202 T201 T202 VC201	L201	T203	T210 VR201 VR204	T204 T205	T209		T211 T207	T206	T212 VR202 VR203	T208		

## **MOUNTING DIAGRAM – VH Board –**

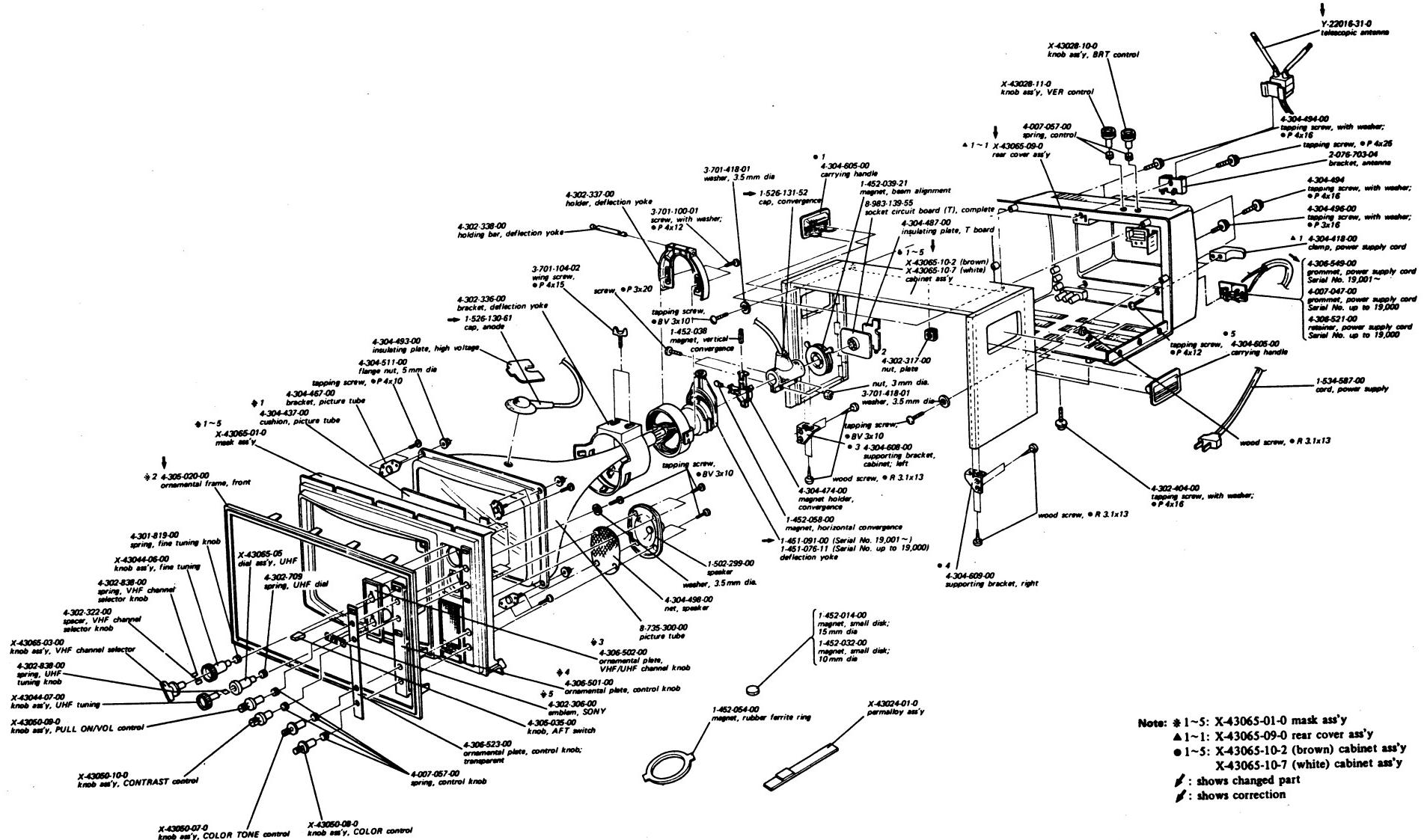
**Serial No. 19,001~**  
**Chassis No. SCC-22A-A**  
**SCC-22A-B**  
**SCC-22A-C**



### Parts Location

Q	Q511		Q505		Q510		Q503 Q502	Q504	Q509	Q507 Q506	Q508
D	D512	D511			D508	D513		D507		D505 D506	
ADJ	VR503 VR505 VR506 VR507		VR502	VR504	VR501		VR508				

## **EXPLODED VIEWS (1)**



West Germany Model

## SUPPLEMENT

No. 4  
April 1973

### Subject: Electrical and Mechanical Changes

This supplement updates the service manual to include production changes covering Serial No. 69,249 ~ 71,249.  
File this supplement with the service manual.

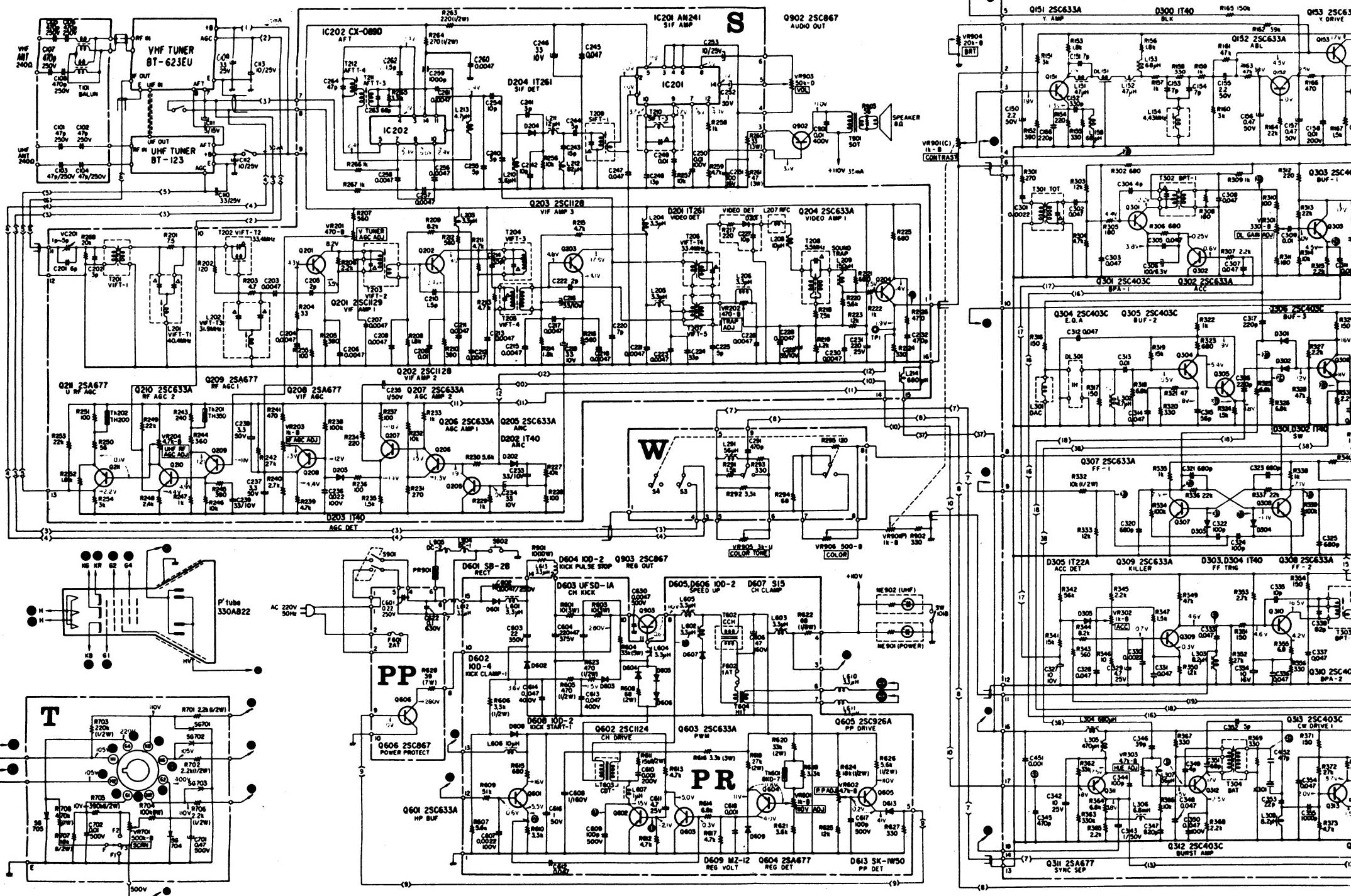
#### 1. INTRODUCTION

The VH circuit board and deflection yoke have been changed in addition to some other electrical and mechanical changes.

#### 2. CHANGED PARTS LIST

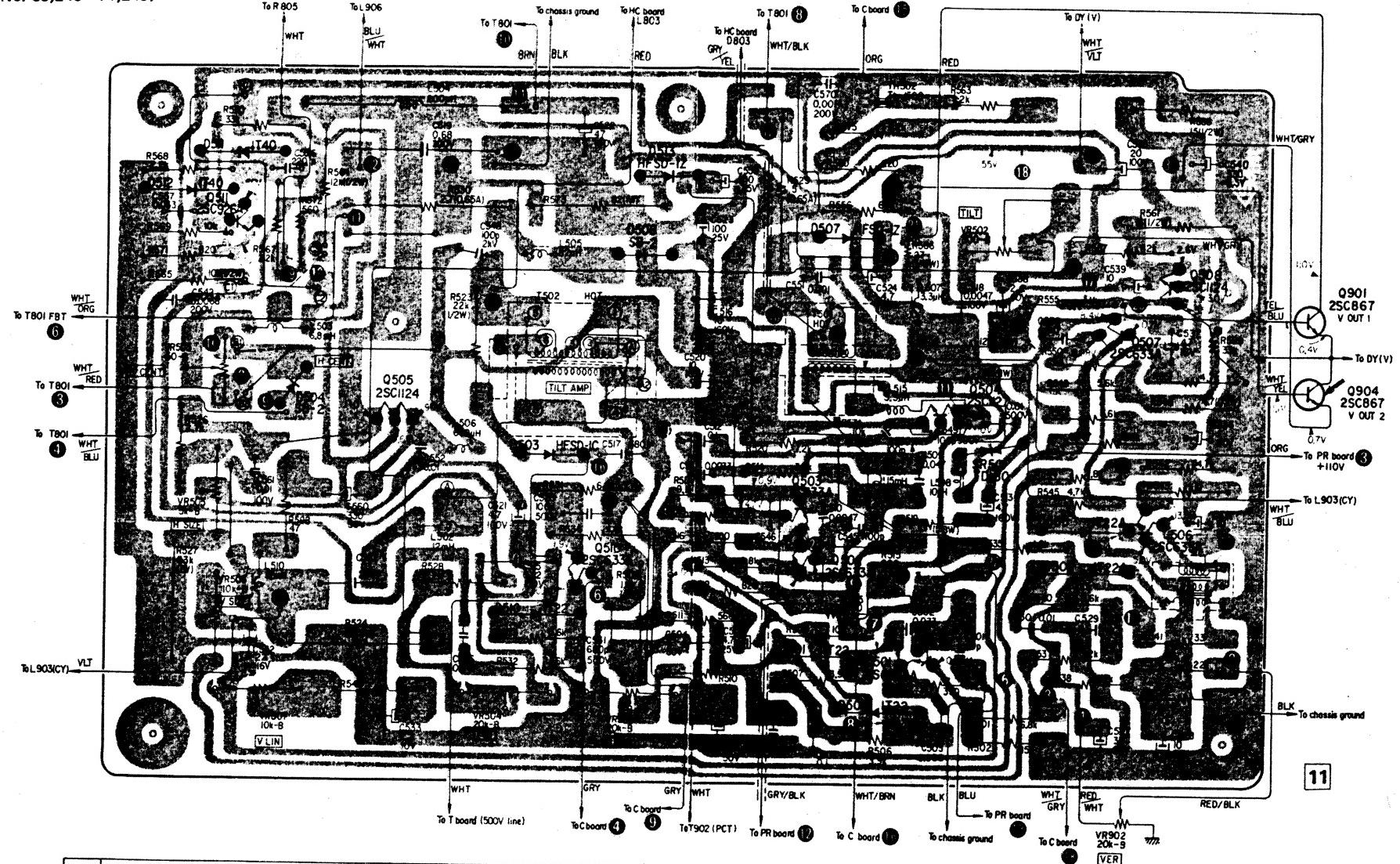
(Serial No. 69,249 ~ 71,249)

Ref. No.	Former Part Value	New Part No./Part Value
VH board	8-983-139-35	8-983-781-15
Q904	-----	2SC867
L907	-----	1-451-096-00 coil, phase adjustment; PAC
T902	-----	1-421-301-00 transformer, pincushion; PCT
C921	-----	1-108-632-11 0.33µF ±10% 100V mylar
R921	-----	1-244-673-11 1kΩ ±5% ¼W carbon
R922	-----	1-244-673-11 1kΩ ±5% ¼W carbon
R923	-----	1-244-703-11 18kΩ ±5% ¼W carbon
DY	1-451-076-11	1-451-096-00 deflection yoke



## **MOUNTING DIAGRAM – VH Board –**

(Serial No. 69,249~71,249)

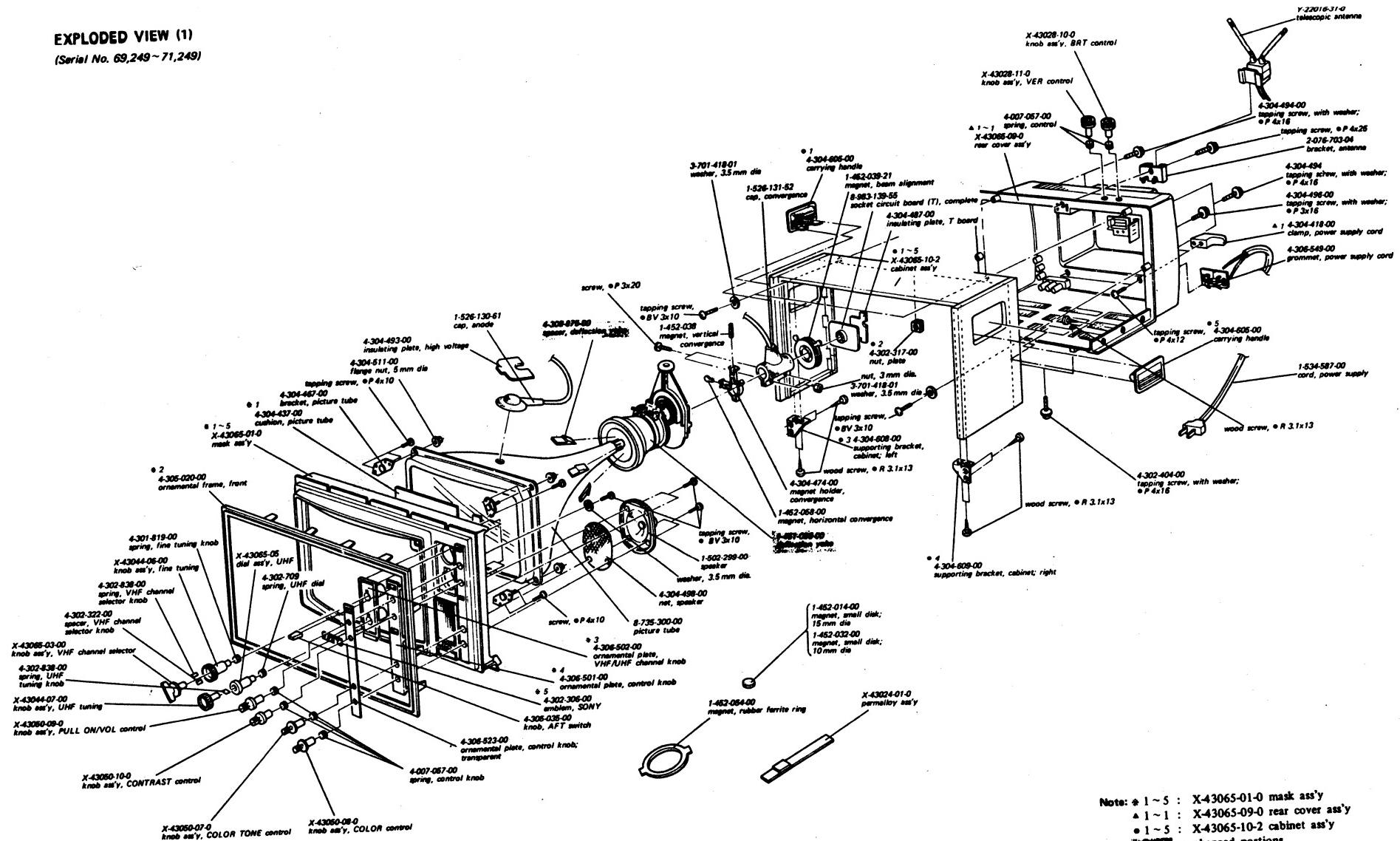


								VER
Q		Q505	Q510		Q503 Q502	Q504 Q501	Q507 Q506	Q901 Q904
D	D512	D511 D504		D503 D510	D508 D513	D507 D501 D502	D505 D506	
ADJ.	VR503 VR505 VR506	VR507		VR504	VR501		VR502	VR902

**Note:** 1. The parts marked ■ are mounted on the conductor side.  
2. ↗ shows the changed portion.

## **EXPLODED VIEW (1)**

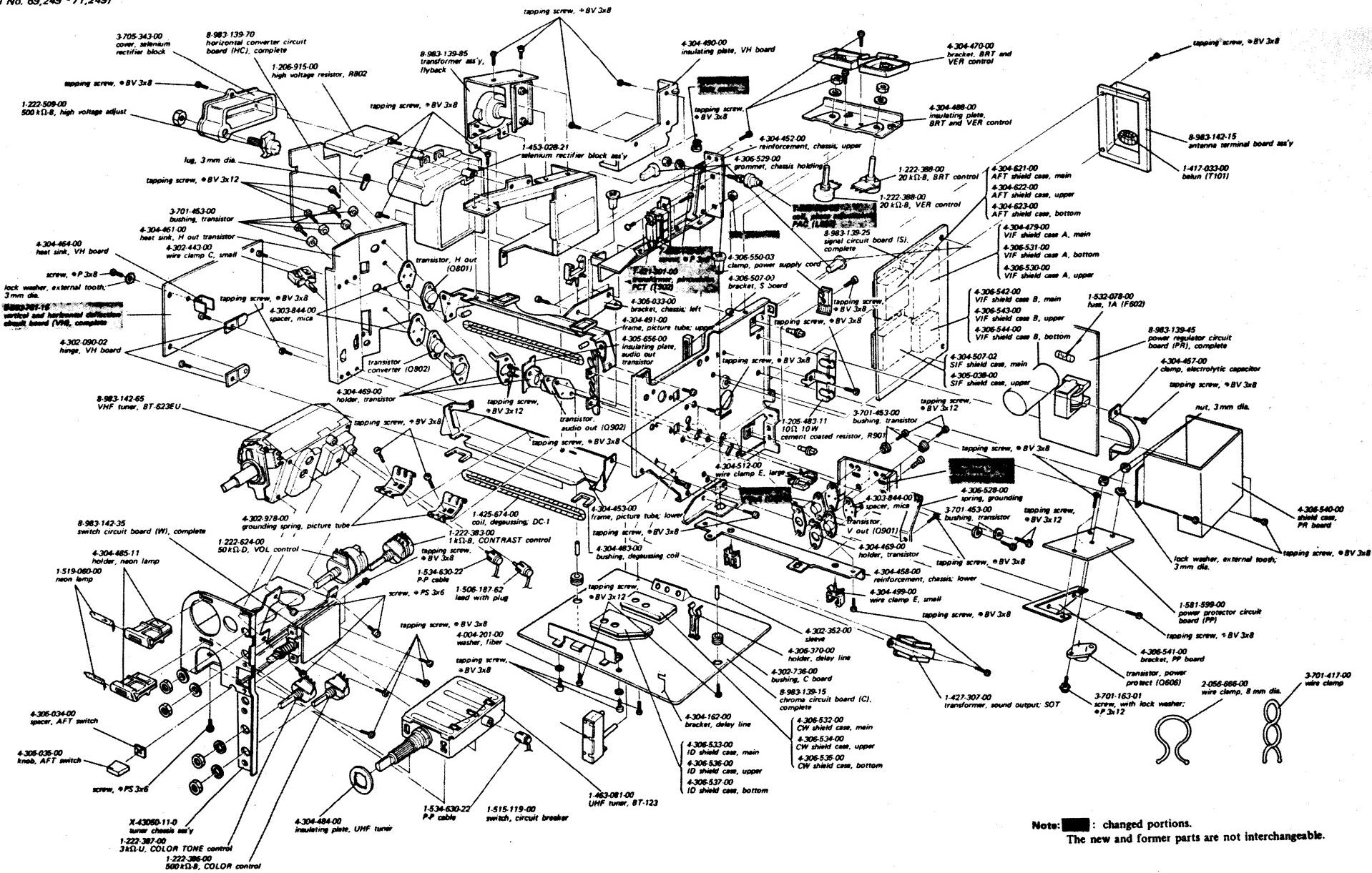
(Serial No. 69,249 ~ 71,249)



Note: \* 1 ~ 5 : X-43065-01-0 mask ass'y  
 ▲ 1 ~ 1 : X-43065-009-0 rear cover ass'y  
 • 1 ~ 5 : X-43065-10-2 cabinet ass'y  
 □ 1 ~ 5 : changed portions  
 The new and former parts are not interchangeable.

## EXPLODED VIEW (2)

(Serial No. 69,249 - 71,249)



Note: : changed portions.

The new and former parts are not interchangeable.

**NEW VH BOARD PARTS LIST**

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>									
<b>SEMICONDUCTORS</b>																				
Q501	transistor	2SC633A	CS01	1-102-947-11	10p $\pm 5\%$	CS48	1-102-153-11	100p $\pm 20\%$ 2kV	R533	1-244-691-11	5.6k									
Q502	transistor	2SC633A	CS02	1-108-632-11	0.033 $\pm 10\%$ 100V mylar	CS49	1-101-810-11	100p $\pm 5\%$ 500V	R534	1-244-679-11	1.8k									
Q503	transistor	2SC633A	CS03	1-108-632-11	0.033 $\pm 10\%$ 100V mylar	CS50	1-102-973-11	100p $\pm 5\%$	R535	1-244-679-11	1.8k									
Q504	transistor	2SC1127	CS04	1-121-391-11	1 $\pm 10\%$ 50V electrolytic	CS51	1-102-074-11	0.001 $\pm 10\%$	R536	1-244-705-11	22k									
Q505	transistor	2SC1124	CS05	1-108-634-11	0.047 $\pm 10\%$ 100V mylar	CS52	1-101-004-11	0.01 $\pm 10\%$	R537	1-244-705-11	22k									
Q506	transistor	2SC633A	CS06	1-121-395-11	4.7 $\pm 10\%$ 25V electrolytic	CS53	-----	-----	R538	1-244-699-11	12k									
Q507	transistor	2SC633A	CS07	1-108-638-11	0.1 $\pm 10\%$ 100V mylar	CS54	-----	-----	R539	1-244-703-11	18k									
Q508	transistor	2SC1124	CS08	1-121-405-11	33 $\pm 10\%$ 50V electrolytic	CS55	-----	-----	R540	1-244-691-11	5.6k									
Q509	-----	-----	CS09	1-106-212-12	0.047 $\pm 5\%$ 100V mylar	CS56	1-102-978-11	220p $\pm 5\%$	R541	1-244-637-11	33									
Q510	transistor	2SC633A	CS10	1-106-188-12	0.0047 $\pm 5\%$ 100V mylar	CS57	1-108-632-11	0.033 $\pm 10\%$ 100V mylar	R542	1-244-689-11	4.7k									
Q511	transistor	2SC926A	CS11	1-106-184-12	0.0033 $\pm 5\%$ 100V mylar	CS58	1-121-398-11	10 $\pm 10\%$ 25V electrolytic	R543	1-244-625-11	10									
D501	diode	1T22	CS12	1-108-638-11	0.1 $\pm 10\%$ 100V mylar	CS59	1-101-004-11	0.01 $\pm 10\%$	R544	1-244-679-11	1.8k									
D502	diode	1T22	CS13	1-121-246-11	4.7 $\pm 10\%$ 160V electrolytic	CS60	1-121-656-11	330 $\pm 10\%$ 50V electrolytic	R545	1-244-713-11	47k									
D503	diode	HFSD-1C	CS14	1-102-038-11	0.001 $\pm 10\%$ 500V	CS61	1-105-713-12	0.01 $\pm 10\%$ 100V mylar	R546	1-244-673-11	1k									
D504	diode	SB-2	CS15	1-105-729-13	0.22 $\pm 10\%$ 100V mylar	CS62	1-108-704-11	0.1 $\pm 10\%$ 200V mylar	R547	1-244-715-11	56k									
D505	diode	1T22A	CS16	1-121-708-11	10 $\pm 10\%$ 160V electrolytic	<b>RESISTORS</b>														
D506	diode	1T22A	CS17	1-102-219-11	680p $\pm 20\%$ 1kV	R501	1-244-693-11	6.8k	All the resistors are in ohms, $\pm 5\%$ , $\frac{1}{2}\text{W}$ and carbon unless otherwise noted. k = 1,000 ohms.											
D507	diode	HFSD-1Z	CS18	1-106-212-12	0.047 $\pm 5\%$ 100V mylar	R502	1-244-701-11	15k	R551	1-244-689-11	4.7k									
D508	diode	SB-2	CS19	1-108-549-11	0.68 $\pm 10\%$ 200V mylar	R503	1-244-665-11	470	R552	1-202-794-11	33k									
D509	-----	-----	CS20	1-121-921-11	10 $\pm 10\%$ 160V electrolytic	R504	1-244-663-11	390	R553	1-244-691-11	5.6k									
DS10	diode	1T22	CS21	1-121-918-11	4.7 $\pm 10\%$ 100V electrolytic	R505	1-244-660-11	300	R554	1-244-899-11	12k									
DS11	diode	1T40	CS22	1-121-919-11	47 $\pm 10\%$ 160V electrolytic	R506	1-244-687-11	3.9k	R555	1-244-673-11	1k									
DS12	diode	1T40	CS23	1-121-416-11	100 $\pm 10\%$ 25V electrolytic	R507	1-244-687-11	3.9k	R556	1-244-717-11	68k									
DS13	diode	HFSD-1Z	CS24	1-121-396-11	4.7 $\pm 10\%$ 50V electrolytic	R508	1-206-017-11	1.8k	R557	1-244-719-11	82k									
<b>COILS</b>												$\frac{1}{2}\text{W}$ metal oxide								
SR501	1-800-032-00	varistor	TD-80	CS25	1-101-810-11	100p $\pm 5\%$ 500V	R509	1-244-697-11	10k	R561	1-244-873-11	1k								
				CS26	1-108-634-11	0.047 $\pm 10\%$ 100V mylar	R510	1-244-703-11	18k	R562	-----	$\frac{1}{2}\text{W}$								
				CS27	1-121-405-11	33 $\pm 10\%$ 50V electrolytic	R511	1-244-667-11	560	R563	1-244-675-11	1.2k								
				CS28	1-121-738-11	10 $\pm 10\%$ 50V electrolytic	R512	1-244-671-11	820	R564	1-244-899-11	12k								
				CS29	1-108-626-11	0.01 $\pm 10\%$ 100V mylar	R513	1-244-693-11	6.8k	R565	1-244-897-11	10k								
				CS30	1-108-626-11	0.01 $\pm 10\%$ 100V mylar	R514	1-244-685-11	3.3k	R566	1-211-932-11	27								
				CS31	1-131-158-11	10 $\pm 20\%$ 16V electrolytic	R515	1-244-669-11	680	R567	1-244-705-11	22k								
				CS32	1-121-479-11	22 $\pm 10\%$ 16V electrolytic	R516	1-244-649-11	100	R568	1-244-681-11	2.2k								
				CS33	1-127-024-11	2.2 $\pm 20\%$ 10V electrolytic (alox)	R517	1-244-696-11	9.1k	R569	1-244-697-11	10k								
						R518	1-244-669-11	680	R570	1-244-709-11	33k									
						R519	1-211-451-11	1k	R571	1-244-671-11	820									
						R520	1-244-675-11	1.2k	R572	1-244-667-11	560									
						R521	-----	-----	R573	1-206-080-11	82									
						R522	-----	-----	R574	1-206-688-11	10k									
						R523	1-202-792-11	22k	R575	1-244-675-11	1.2k									
						R524	1-206-145-11	68	R598	1-244-641-11	47									
						R525	-----	-----	R599	1-244-709-11	33k									
						R526	1-244-683-11	2.7k	VR501	1-222-725-00	20k-B, adjustable (H FREQ control)									
						R527	1-206-110-11	33	VR502	1-223-019-00	300-B, adjustable (TILT control)									
						R528	1-244-681-11	2.2k	VR503	1-223-017-00	50-B, adjustable (H CENT control)									
						R529	1-207-241-11	5	VR504	1-222-725-00	20k-B, adjustable (PIN control)									
						R530	1-207-982-11	2.7	VR505	1-222-344-00	5k-B, adjustable (H SIZE control)									
						R531	1-244-893-11	6.8k	VR506	1-222-512-00	10k-B, adjustable (V SIZE control)									
						R532	1-244-715-11	56k	VR507	1-222-512-00	10k-B, adjustable (V LIN control)									